DOCUMENT RESUME

ED 110 152 JC 750 459

AUTHOR	Johnston, Stephen A.; Jolley, Hazel R.
TITLE	North Carolina Community College System Strategic Plan, 1975-1985. Based on Manpower Requirements and Including Multicounty Planning Region Detail. Research Memorandum.
INSTITUTION	Research Triangle Inst., Durham, N.C.
SPONS AGENCY	North Carolina State Dept. of Community Colleges, Raleigh.
REPORT NO	RM-26U-976-2
PUB DATE	Jan 75
NOTE	128p.; Not available in hard copy due to marginal legibility of original document. Appendix C has been deleted due to poor legibility. For a related document, see JC 750 460
EDRS PRICE	MF-$0.76 PLUS POSTAGE. HC Not Available from EDRS.
DESCRIPTORS	Educational Objectives; *Employment Projections; *Enrollment Projections; Job Training; *Junior Colleges; Labor Market; *Manpower Needs; Population Trends; Regional Planning; *Statewide Planning; Technical Institutes; Vocational Education
IDENTIFIERS	*North Carolina

ABSTRACT

This 10-year strategic plan for the period 1975-85 is one of three interrelated plans developed for the North Carolina Community College System. Population projections, along with projections of labor force participation rates by age, race, and sex are used to project the total labor force in 1985. Projections of employment by industry and of occupational and related training requirements for the 1970-1985 period are made for the state and its 17 official multi-county planning regions, as well as estimates of training needs unmet in 1970. This information is translated into statewide projections of graduates and enrollments in broad instructional areas (college transfer, general education, technical, and vocational) and in extension programs, with associated costs, and construction and faculty/staff requirements. Considerations of the system's goals, assessment of economic and educational environment, and projections of output from other sectors of the state's educational system are discussed in detail. A description of the projection procedure is appended. (MJK)

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NORTH CAROLINA COMMUNITY COLLEGE SYSTEM

STRATEGIC PLAN 1975-1985

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PREPARED FOR

NORTH CAROLINA DEPARTMENT OF COMMUNITY COLLEGES
BY
RESEARCH TRIANGLE INSTITUTE

RM-26U-976-2

January 1975

RESEARCH MEMORANDUM

North Carolina Community College System Strategic Plan 1975-1985

Based on

Manpower Requirements
and Including
Multicounty Planning Region Detail

by

Stephen A. Johnston
Hazel R. Jolley

Prepared for

North Carolina Department of Community Colleges

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SUMMARY

NORTH CAROLINA COMMUNITY COLLEGE SYSTEM STRATEGIC PLAN

The North Carolina Community College System is legislatively mandated to provide comprehensive educational opportunities to the State's adult citizenry insofar as is financially feasible and to provide training opportunities for the development of skills necessary to support the smooth functioning and advancement of the North Carolina economy. A total of 57 educational centers--39 technical institutes and 18 community colleges--are available for these purposes.

In keeping with the philosophy of total education, the System has maintained an open-door policy toward all persons interested in educational pursuits. Rapid enrollment growth has resulted from this policy. Unduplicated headcount enrollments have grown from 52,870 in 1963-1964 to more than 400,000 in 1973-1974. Approximately 75 percent of the current enrollments are in noncredit extension courses, including adult basic education courses, which provide services to help adults learn to read and write; the adult high school program, which enables adults to obtain a high school certificate or diploma; short-term occupational classes, which provide upgrading and updating of occupational skills of persons who are currently employed; and academic short courses. Many of these program areas are financially self-supporting. The majority of the instructional effort and the expenditure of budgeted funds is for curriculum degree and diploma programs. Technical (two year) and vocational (one year or less) programs represent the major effort within the curriculum program area.

The information presented in this report represents a ten-year strategic plan for the Community College System for the 1975-1985 decade. This information will be combined with information in the five-year plans prepared by each institution in the System to develop a systemwide five-year operating program for the period 1975-1980. The operating program will provide the framework from which a budget request for the 1977-1979 period will be prepared.

This strategic plan calls for the following Systemwide annual average unduplicated headcount enrollments by broad instructional area over the 1975-1985 decade:

(1) Curriculum Programs

(a) College Transfer -- 17,880

(b) Technical -- 53,475

(c) Vocational -- 29,190

(d) General Education -- 33,620

(2) Extension Programs

(a) Occupational -- 215,000

(b) Adult High School -- 106,765

(c) Adult Basic -- 60,465

(d) Adult General -- 165,000

These estimates are based primarily on manpower requirements and do not fully reflect the level of effort required of the System to meet its comprehensive education mandate. Thus these numbers may be construed as lower limits for planning purposes, representing only one input--manpower requirements--to the planning for comprehensive education incumbent upon the Community College System.

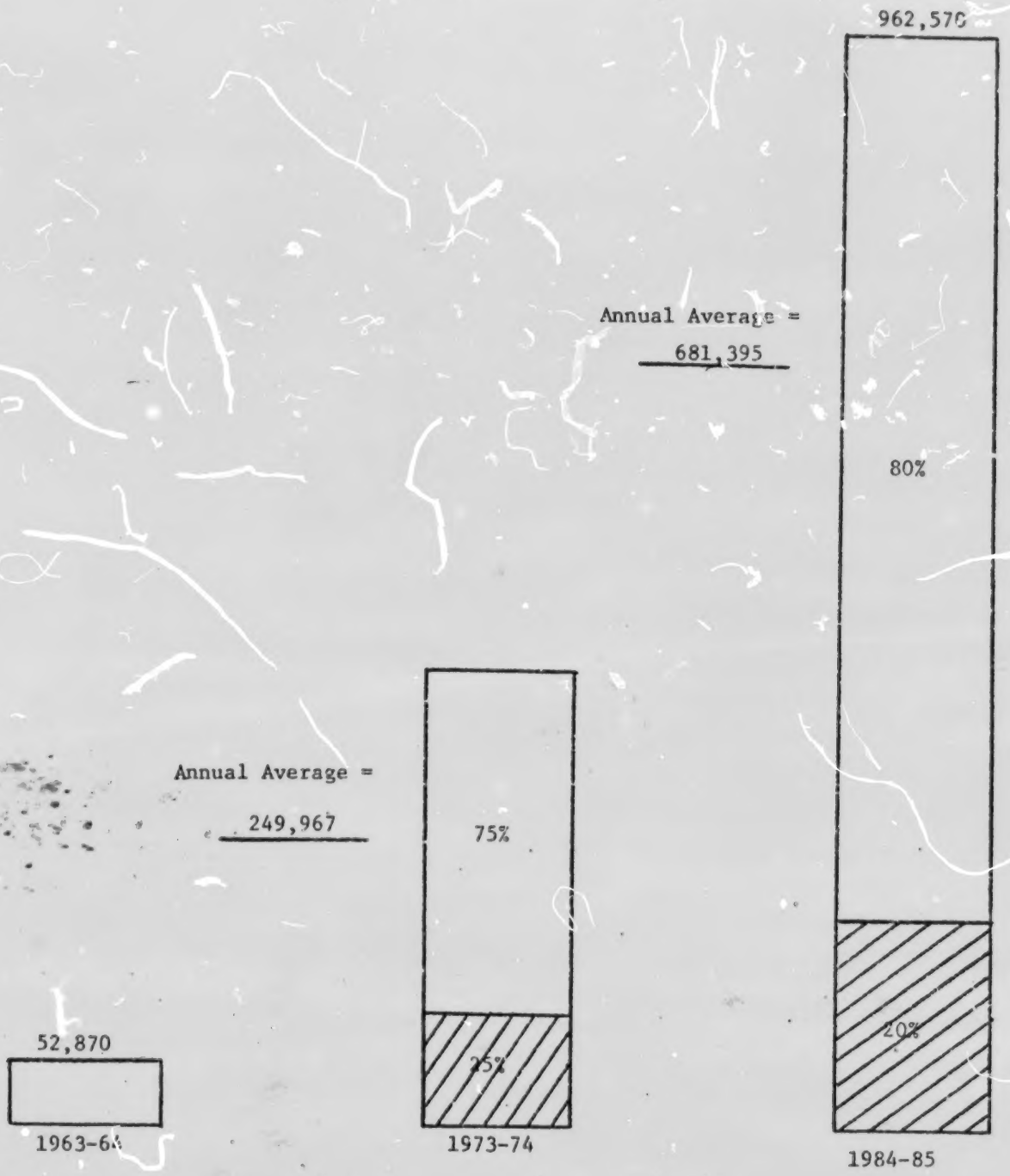
These lower-limit enrollment figures represent growth from current levels in every category. This enrollment growth is placed in historical perspective in Figure S-1, which portrays enrollment growth continuing absolutely, although the rate of enrollment growth is projected to decline over the planning decade. This growth translates into increased staffing requirements: if current staffing patterns continue, 7,600 instructional staff will be required on an annual average basis over the decade.

Annual average instructional expenditures over the 1975-1985 decade required to support this growth may be expected to rise to $72,244,000 in 1973-1974 dollars. Similar growth may be expected in noninstructional expenditures, to $48,002,000 in 1973-1974 dollars.

Annual average equipment expenditures over the 1975-1985 decade required to support enrollment growth may be expected to rise to $72,255,000 in 1973-1974 dollars. With current provisions of floor space per student, construction expenditures may rise to $103,874,000 in 1973-1974 dollars; if recommended space levels are adopted, construction expenditures could rise further to $168,179,000 in 1973-1974 dollars.

These figures are offered for long-range planning purposes. They represent implications for Community College System growth, assuming continued growth in the North Carolina economy and a continuation in patterns of

System operation. Accomodation of this enrollment growth without the attendant growth in expenditures projected by a continuation of past expenditure patterns may require innovation by the System to increase its productivity and thus lower the unit cost of its outputs. The North Carolina Community College System is well prepared both to accomodate enrollment growth and to develop and implement innovative educational approaches, as is evidenced by its history. Based on the figures presented in this report, the System should continue to advance on both these fronts, with additional emphasis on innovation with the passage of time. This changing emphasis will then represent a gradual shift from quantity to quality growth, although both aspects of growth will continue to be important throughout the long-range planning period.



Legend:

Unduplicated headcount enrollments

Curriculum Program Enrollment

Extension Program Enrollment

Note: No separation of enrollments into curriculum and extension programs is available for 1963-64.

Figure S-1. Growth in North Carolina Community College System Enrollments.

I. INTRODUCTION

This document represents another phase in the continued development of the planning capability of the North Carolina Community College System. A description of the overall planning process as applied to this system is contained in a previous Research Triangle Institute publication.[1/] The current research effort provides an update of the planning information contained in that document, expands the information base to a larger number of occupations, and provides projections of training requirements that are derived from the projected occupational requirements by multicounty planning regions.

The enrollment projections produced in this effort are essentially manpower based. It is recognized that manpower considerations are but one element in the total postsecondary educational planning process. Equally important considerations include student aspirations and the educational desires of potential students in the general population. Thus, these projections represent lower bounds for enrollment planning purposes; attempts to include considerations other than manpower needs will increase the enrollment projections accordingly.

The ten-year strategic plan presented here for the period 1975-1985 is the first of three interrelated plans. Information presented in this strategic planning effort will be combined with information from individual institution plans to develop a systemwide five-year operating program for the period 1975-1980.[2/] This systemwide five year operation program will then be used to develop a two-year program budget for the 1977-1979 biennium. Each of these plans can be updated as new information becomes available, subject to the requirement that the internal consistency among the three plans is not violated by the updating process. These three time-

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[1/] Alvin M. Cruze, Planning for the North Carolina Community College System, Volume II, "Ten Year Strategic Plan, 1970-80," Research Triangle Institute, Research Triangle Park, N.C., June 1970.

[2/] Each institution within the system is required by the State Board of Education to submit a five-year plan designed to meet local needs as well as State needs.

phased plans will then form the first link in the overall planning-implementation-evaluation chain.

These three plans will be prepared in the following formats.

(1) The ten-year strategic plan for the period 1975-1985 will provide information on the systemwide number of graduates and students that should be enrolled in each of the broad instructional areas, with associated costs and construction and faculty and staff requirements.

(2) The five-year operating program for the period 1975-1980 will be presented in terms of specific curriculum offerings for institutions in the system and of target levels of enrollments and graduates.

(3) The two-year program budget for the period 1977-1979 will be based on anticipated enrollments as specified in the second two-year period of the 1975-1980 operating program and will be prepared in a format compatible with established budgeting procedures in the Department.

The strategic plan contains information on occupational requirements over the long-range planning period 1970-1985, and on the systemwide numbers of grauates and enrollments during the subperiod 1975-1985. These graduate and enrollment projections are derived under the assumption that current trends in rates of program completion and labor-force participation of program completers continue into the future. The instructional areas addressed in this effort include four curriculum programs--college transfer, general education, technical, and vocational--and four extension programs--occupational, adult basic education, adult high school education, and general adult education.

These occupational requirements and their training implications for the Community College System have been developed with the aid of a manpower directions model similar to one used by the U.S. Bureau of Labor Statistics for the Nation. More confidence can be placed in the relative standings in occupational employment and in requirements projected by this model than in the actual numbers themselves. A description of the modeling procedure is contained in Appendix A.

II. COMMUNITY COLLEGES AND EDUCATION IN NORTH CAROLINA

A. Introduction

The three plans for the Community College System are based on a systematic analysis of the training needs of the entire educational system in North Carolina. The Community College System's training needs are based on a simultaneous consideration of (1) the system's goals; (2) a description of the present status of and past trends in activity of the North Carolina economy and educational system; (3) a projection of the future environment in which the community system will be operating, in terms of the population, labor force, and economic activity in North Carolina, and (4) an implicit projection of the outputs of the other sectors of the educational system in North Carolina. This section presents the first two elements; the next section presents the last two and draws the implication for Community College System training requirements.

B. Goals

The long-range or strategic planning process of the Community College System consists of the process of deciding on the goals of the system; on changes in these goals; on resources required to attain the goals; and on the policies that are to govern the acquisition, use, and disposition of these resources. In contrast, short-range plans function within the organizational goals and policies and are more concerned with operational control of resources to fulfill a specified time-phased portion of the strategic plan.

For purposes of this planning effort, a goal is defined as a general purpose pursued over a long period of time which is usually not quantified. In contrast, objectives are set for specific, shorter time frames and are usually quantified. It is the purpose of education within the community college system to accomplish certain specified goals, and a systematic formulation of these goals is essential in order to focus resources and energies directly on achieving defined purposes. The search for alternative programs or courses of action designed to achieve the goals, the choice of optimum or preferred programs based on a display of data that presents the benefits of effectiveness and the costs of each, the ranking of priorities among them, and the measurement of progress all must proceed

in logical systematic sequence in the planning, decisionmaking, and evaluating processes.

The primary criterion for selection of the goals is that they must be related to the contributions made to North Carolina's people and economy by the Community College System's educational process and not to the educational process itself. The educational process then becomes the means for achieving the goals. The number of goals selected should be as small but distinct as possible, consistent with the overall purpose and operations of the Community College System. The reasons for this are twofold:

(1) many of the educational programs of the System contribute to more than one goal, necessitating the use of multiple measures of effectiveness in program evaluation. The use of a small but distinct number of goals keeps this evaluation process as uncomplicated as possible;

(2) many of these goals could be in conflict. The use of a small but distinct number keeps these conflicts to a minimum. In addition, in order to formulate an effective strategic plan for implementation, priorities must be determined among the goals. The specification of a relatively small number of goals simplifies the necessary task of setting these priorities.

Article IX, Section 9 of the North Carolina Constitution states, "The General Assembly shall provide that the benefits of the University of North Carolina and of other public institutions of higher education, as far as practicable, be extended to the people of the State free of expense." In meeting this obligation, the State recognizes its responsibility to provide public education at all levels in order to afford an opportunity for the people to develop as fully as possible commensurate with their abilities. Consistent with this constitutional obligation, the North Carolina General Assembly has enacted appropriate legislation to provide for the establishment, organization, and administration of a system of educational institutions throughout the State offering courses of instruction in one or more of the general areas of the first two years of college, occupational education, and adult education programs. These institutions of the Community College System take their place in the State's total

educational system in a position between the public school system and the four-year colleges and universities. Furthermore, these institutions fulfill their responsibilities under the Constitution by opening their doors to all residents of North Carolina.

The philosophy of the open door institution has been stated by Dr. Dallas Herring, Chairman of the State Board of Education, as follows:[1/]

> The only valid philosophy for North Carolina is a philosophy of total education: a belief in the incomparable worth of all human beings, whose claims upon the State are equal before the law and equal before the bar of public opinion, whose talents (however great or however limited or however different from the traditional) the State needs and must develop to the fullest possible degree. This is why the doors to the institutions in North Carolina's system of community colleges [and technical institutes] must never be closed to anyone of suitable age who can learn what they teach. We must take the people where they are and carry them as far as they can go within the assigned function of the system. . . .

Within the framework of the above educational policy for the entire State, the purpose and goals of the community college system have been established.

The purpose of the North Carolina Community College System is to fill the gap in a broad range of educational opportunity between high school and the senior college and university and to provide reentrants into the formal educational system with the opportunity to expand their educational horizons, regardless of their previous levels of educational attainment. In carrying out this role, the system of technical institutes and community colleges offers occupational, academic, and cultural education and training opportunities from basic education through the two-year college level, at a convenient time and place and at a minimal cost, to anyone of suitable age who can learn and whose needs can be met by the institutions within the System.

A recent study[2/] has translated this broad purpose into a set of specific goal statements and has surveyed ten population subgroups who

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1/ Progress Report of the Comprehensive Community College System in North Carolina, Raleigh: State Board of Education, April 1969, p. 9.

2/ Terry Tollefson, "An Assessment of Goals and Major Policies of the North Carolina Community College System as a Basis for Long Range Planning." Unpublished Ph.D. Dissertation, University of Michigan, Ann Arbor, Michigan, 1975.

either have impact on, or are impacted by, the North Carolina Community College System in order to obtain a ranking of these goals. The ten sub-groups which were sampled are as follows:

(1) Member of the State Board of Education;
(2) Top level administrators of the Department of Community Colleges;
(3) Presidents of the Community Colleges and Technical Institutes;
(4) Chairmen of the Boards of Trustees of these institutions;
(5) Chairmen of academic departments and instructionally related programs in these institutions;
(6) Members of the State House of Representatives;
(7) Members of the State Senate;
(8) Members of the Council on State Goals and Policy;
(9) Chief executives from the business community; and
(10) Curriculum students in the Community College System.

Aggregate goal rankings were formed from the rankings submitted by each respondent. These rankings ranged from 1 to 25, with smaller numbers corresponding to higher rankings. Three goals received a significantly low level of support and are not reported here. The remaining 22 goals are grouped into three major categories for purposes of this study:

(1) Program goals--goals that relate directly to existing Community College System instructional programs;
(2) Outcome goals--goals that relate to educational or service outcomes for students, the community, or the economy;
(3) Support goals--goals that are integral to the achievement of either program goals or outcome goals.

The goals are listed below; aggregate rankings follow in parentheses:

(1) Program goals:
   (a) To provide short-term vocational entry skills. (5)
   (b) To provide two years of training for technicians in such fields as engineering, business, and health. (7)
   (c) To teach reading and mathematics for adults at grade levels 1 through 8, as necessary. (10)
   (d) To help business and industry by training their employees. (11)
   (e) To teach high school courses for adults over age 18. (13)

(f) To provide for career mobility by giving credit for vocational training by students enrolled in related technical programs. (For example, a graduate of a 1-year Licensed Practical Nursing Program would receive up to 1 year's credit in a 2-year Associate degree nursing program.) (14)

(g) To assure that all graduates of associate degree college-transfer programs will be accepted into public university bachelor's degree programs. (15)

(h) To assure that all graduates of associate degree technical programs will be accepted into public university bachelor's degree programs designed for that purpose. (19)

(i) To offer the first 2 years of a regular 4-year college education. (20)

(2) Outcome goals:

(a) To operate each Community College/Technical Institute at the lowest possible cost consistent with quality. (2)

(b) To improve educational programs by constantly evaluating their success. (3)

(c) To help the State grow economically by basing educational programs on the types of employees needed in each community. (6)

(d) To help each student become self-fulfilled and well adjusted, through teaching and counseling for this purpose. (12)

(e) To use paid staff time and money from each institution to help solve urgent educational problems of the community. (17)

(f) To help private 2-year and 4-year colleges to improve and grow. (21)

(g) To offer such community services as lectures, concerts, and plays for community residents. (22)

(3) Support goals:

(a) To maintain an "open-door" admissions policy for all North Carolina residents aged 18 or older. (1)

(b) To provide buildings and equipment which are satisfactory for educational purposes. (4)

(c) To offer a combination of enough scholarships, loans, work-study funds, and low tuition so that most people will be able to afford to attend a Community College/Technical

Institute (so that nearly all adults could afford to attend at least on a part-time basis). (8)

(d) To make it easy for almost any North Carolina citizen to reach a Community College/Technical Institute by car or bus. (9)

(e) To offer many types of courses for adults, including senior citizens. (16)

(f) To protect the right of each teacher and student to say what he/she believes about such things as politics or religion without fear of punishment. (18)

Successful achievement of these goals, on a priority basis, requires a broad-based effort on the part of the North Carolina Community College System. This strategic plan outlines the requirements for the achievement of the manpower-needed goals in this goal set. Achievement of the other goals can then be addressed as an extension of the information presented in this plan.

C. Descriptive Analysis

1. Planning Areas

Because the economic and demographic characteristics of North Carolina vary significantly from the mountains to the coast, 17 planning regions designated by the State as official multicounty planning regions have been used to manage the information involved in this planning effort. The descriptive and projection models and strategic plan have been separately derived for each of these 17 regions to identify the long-range needs for institutions located in each region. The boundaries of the 17 planning regions, together with the institutions of the Community College System located in each, are shown in Figure II-1.

2. North Carolina Population, Labor Force and Economic Activity

Important inputs to the descriptive analysis are data on present and past levels of population, labor force and, economic activity in North Carolina. Characteristics of interest include the total level and the age and sex and educational attainment distribution of population; labor requirements, in terms of the industry and occupational distribution and educational attainment requirements of employment;

Figure II-1.

NORTH CAROLINA MULTI-COUNTY PLANNING REGIONS

■ Technical Institutes

X Community Colleges

and labor availabilities, in terms of the educational attainment distribution of employed workers in North Carolina.

No extensive data collection or survey efforts were undertaken for this effort. Rather, previously published data on the characteristics of population, labor force, and economic activity were used. Summaries of the North Carolina population are presented to provide an appropriate background for the strategic plan.

Summaries of the North Carolina population for 1960 and 1970 are presented below:

	April 1, 1960	April 1, 1970	Increase 1960-1970 Number	Percent
Civilian	4,482,200	5,082,059	599,859	13.4
Military	74,000	105,014	31,014	41.9
TOTAL	4,556,200	5,187,073	630,873	13.8

Civilian Labor Force Availability (aged 16 and over):

April 1, 1960 - 2,879,300 (64 percent of civilian population)

April 1, 1970 - 3,414,502 (67 percent of civilian population)

Further details of the age and sex distribution of North Carolina population for both 1960 and 1970 are contained in Table II-1.

Presently employed workers in North Carolina have training needs and it is necessary to obtain some measure of their currently available training levels to determine these needs. For purposes of this plan levels of educational attainment, as measured by grade completed, are used to provide this measure.

It is recognized that educational attainment is only one way of measuring educational and training requirements and that the actual skills needed may not be related to levels of educational attainment. However, since this effort is primarily for a specific level of educational attainment and since data on educational levels for specific occupations and the educational attainment of the population are

Table II-1

North Carolina Civilian Population

Age	April 1, 1960[1/] Males Number (000)	Percent	Females Number (000)	Percent
0-15	814.3	18.2	788.7	17.6
16-24	315.0	7.0	313.9	7.0
25 and over	1,044.5	23.3	1,205.9	26.9
	2,173.8	48.5	2,308.5	51.5
TOTAL: 4,482,300				

Age	April 1, 1970[2/] Males Number (000)	Percent	Females Number (000)	Percent
0-15	792.7	15.6	763.4	15.0
16-24	454.1	8.9	426.0	8.4
25 and over	1,241.6	24.5	1,404.2	27.6
	2,488.4	49.0	2,593.6	51.0
TOTAL: 5,082,059				

readily available from the U.S. Bureau of Census surveys, educational-attainment levels were used to measure training needs.[3/]

[1/] U.S. Bureau of the Census, "North Carolina General Population Characteristics," U.S. Census of Population, 1960 PC(1) - 35 B N.C., Table 16.

[2/] U.S. Bureau of the Census, "North Carolina General Social and Economic Characteristics," U.S. Census of Population, 1970 PC(1)-C35 N.C., Tables 56 and 57.

[3/] Other concepts which have been used in measuring educational and training requirements are functional or performance requirements, determined by objective job analysis as necessary and sufficient to achieve average performance in specific tasks of jobs and employer or hiring requirements, which reflect conditions in the labor market and may or may not be related to either functional requirements or educational attainment. For an interesting discussion of the use of these three concepts, see Sidney A. Fine, "The Use of the Dictionary of Occupational Titles as a Source of Estimates of Educational and Training Requirements," The Journal of Human Resources, Vol. III, No. 3, Summer 1968, pp. 363-375.

Table II-2

Educational Attainment of North Carolina Civilian Population Aged 16 and Over[1/]

Educational Attainment	Number (000)	Percent
	1960	
0-7 Years	1,010.3	35.1
8 Years	265.1	9.2
1-3 Years of High School	642.9	22.3
4 Years of High School	590.4	20.5
1-3 Years of College	213.5	7.4
4+ Years of College	154.9	5.4
	2,877.0	100.0
	1970[2/]	
0-7 Years	810.7	22.1
8 Years	367.5	10.0
1-3 Years of High School	1,044.8	28.5
4 Years of High School	849.5	23.1
1-3 Years of College	346.8	9.4
4+ Years of College	253.0	6.9
	3,672.3	100.0

[1/] The total population aged 16 and over for each year includes persons who have completed their schooling and persons who are enrolled in school. The 1970 numbers include aged 14 and over.

[2/] U.S. Bureau of the Census, "North Carolina Detailed Characteristics," U.S. Census of Population, 1970, PC(1)-C35 N.C., Table 148.

Table II-2 presents the educational attainment distribution of the North Carolina civilian population aged 16 and over in both 1960 and 1970. The 1960 figures were obtained from the 1960 Census of Population, and the 1970 figures were obtained from the 1970 Census of Population.

The figures in Table II-2 reflect a substantial gain in the educational attainment of the North Carolina population during the 1960-70 decade. For example, 44.3 percent of the population had eight or less years of schooling in 1960; in 1970 this percent declined to 32.1. Conversely, the percent of the population with some college education increased from 12.8 in 1960 to 16.3 in 1970. Even though these shifts have been occurring in North Carolina, the State's overall educational attainment distribution is still below that of the nation as a whole. The implications of these findings for training in the community college system will be highlighted later in this section.

A second important element of the descriptive analysis is the number of workers employed in various occupations in North Carolina. An examination of the occupational distribution of employment yields important insights concerning the types of training that should be provided by the North Carolina educational system in order to prepare workers for these occupations. The 1960 and 1970 occupational distributions of North Carolina employment, in terms of eight major occupational groups, are presented in Figure II-2.[1/]

As indicated in Figure II-2, professional, technical and kindred workers have increased from 138,460 in 1960 to 224,350 in 1970; operatives and kindred workers have increased from 436,720 in 1960 to 601,555 in 1970; and craftsmen, foremen, and kindred workers have increased from 204,915 in 1960 to 292,985 in 1970. At the other end of the occupational structure, laborers and farmers have decreased from 305,750 in 1960 to 234,660 in 1970. Thus many of the workers in the increased share of the three previously mentioned occupational groups during the 1960-70 decade come from people formerly employed as laborers and farmers. This finding is of particular importance to the State's edu-

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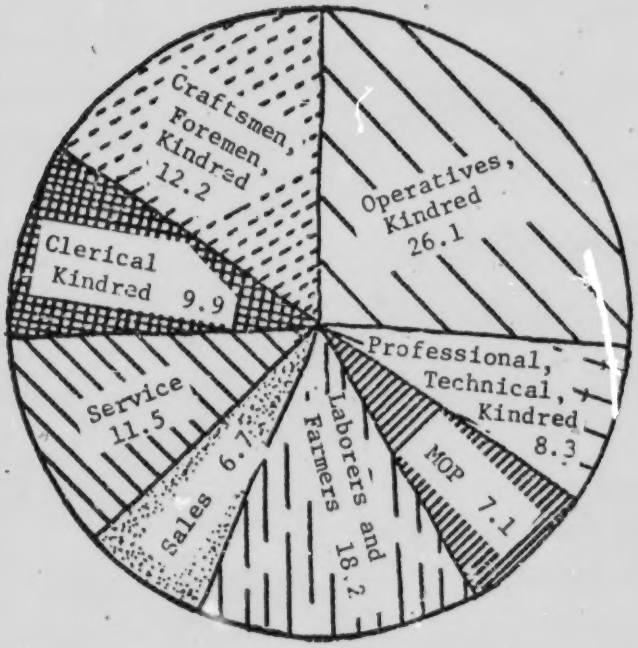
[1/] North Carolina Manpower Projections to 1980, Bureau of Employment Security Research, Raleigh, N.C., November 1972, Table 7, p. 16.

1960 Total Civilian Employment:

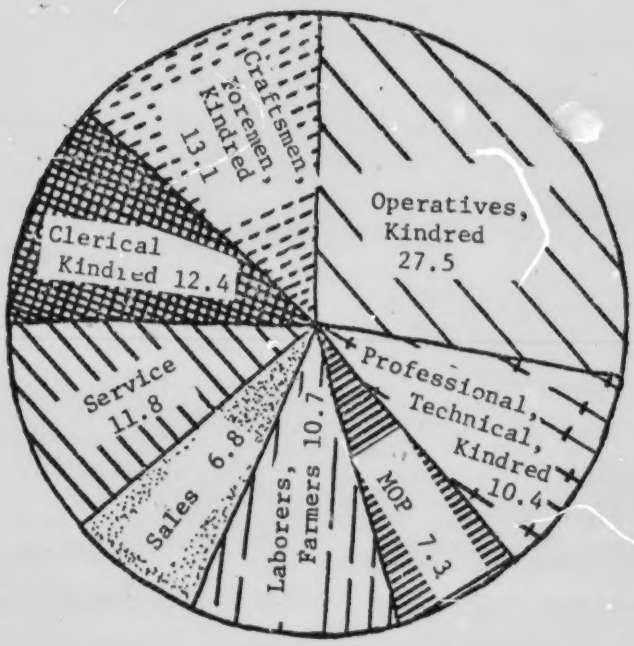
1,676,030



1960

1970 Total Civilian Employment:

2,183,745



1970

Figure II-2. Occupational Distribution of North Carolina Civilian Employment (Percent of Total)

cational system since, if these trends continue, displaced agricultural workers must continue to be provided with the skills to enable them to move to higher skilled occupational classifications, while increased emphasis needs to be focused on the growing number of low-skilled workers in manufacturing occupations, so that they too are provided the opportunity to move up the job ladder through expanded training options.

The concluding element of the descriptive model of North Carolina population, labor force, and economic activity is a comparison of the educational-attainment requirements and availabilities of the 1970 North Carolina employment. The requirements were calculated by applying the 1970 educational-attainment patterns of U.S. workers aged 16-44 in each of 40 occupation groups to North Carolina employment aged 16-44 in each occupation group. These requirements are reported in a previous study.[1/] National educational-attainment patterns were chosen as the appropriate requirements in order to illustrate the level of effort required of North Carolina educational institutions to enable the State's citizens to compete more effectively in the national labor market. The age group 16-44 was chosen as the target group for additional education related to labor force needs since this group is more likely to seek this education to improve their job productivity.

Table II-3 compares these requirements by educational-attainment category against the actual educational-attainment pattern of the North Carolina employed labor force in 1970. The training needs are derived by a procedure that compares requirements with availabilities at each level. This procedure begins with the highest level first, and then proceeds to lower levels successively; whenever excess requirements exist at any level, workers are drawn from the availabilities pool at the immediately lower level to perform the balance. The single exception to this situation is that both the college 1-3 group and the high school graduates with postsecondary technical and vocational training draw workers from the high school graduate pool to perform the balances at each level; no workers are drawn from the college 1-3

[1/] Alvin M. Cruze, et al. North Carolina Educational Policy Plans for the 1970's, Research Triangle Institute, Research Triangle Park, N.C., April 1974.

Table II-3

1970 Unmet Needs of North Carolina Workers Aged 16-44

Level	Requirements		Availabilities		Training Needs	
	Number	Percent	Number	Percent	Number	Percent
College 4+	128,749	10.3	112,886	9.2	15,858	7.3
College 1-3	186,387	14.9	160,637	13.1	41,600	19.2
High School Graduate with Post-Secondary Technical or Vocational Training	161,905	13.0	151,739	12.4	10,158	4.7
High School Graduate with no Further Training	311,750	25.0	263,572	21.5	79,921	36.9
HIgh School 1-3	300,264	24.1	344,146	28.0	36,021	16.6
Grade 8	75,505	6.1	78,361	6.4	33,160	15.3
Grades 0-7	82,447	6.6	115,600	9.4	0	0.0
Total	1,247,006	100.0	1,247,006	100.0	216,718	100.0

Note: Items may not add to totals due to rounding.

Source: Research Triangle Institute

pool to balance availabilities with requirements at the high school postsecondary technical and vocational level, and vice versa.

As can be seen from this table, the major training needs for the 1970 employed labor force aged 16-44 exist at the high school graduate level. Training needs at this level represent approximately 37 percent of total training needs of 216,718. Additional needs are indicated at all but the lowest educational attainment level. These additional needs are encountered primarily at the college 1-3 level, the high school 1-3 level, and the eighth grade, in that order. College 4+ and high school graduate with post secondary technical and vocational training needs are less in number, representing only 12 percent of the total training needs.

3. Community College System

Beginning with a single two-year college established in Asheville in 1928 and supported from local funds, Community Colleges and Technical Institutes in North Carolina have grown to the present total of 57 institutions, distributed across the State. (See Figure II-1.) However, during this 46-year period, the major activity in building the system occurred relatively recently, subsequent to the establishment of a community college system and a Department of Community Colleges under the State Board of Education by the 1963 North Carolina General Assembly. The present (1974) Community College System consists of 18 community colleges and 39 technical institutes. The State Board of Education has approved college transfer programs and the resulting conversion to community college status for Vance-Granville and Martin Technical Institutes subject to approval by the General Assembly.

The system has grown from 52,870 unduplicated headcount enrollments in 1963-1964 to 400,220 in 1973-1974, a compound annual rate of growth of 22.4 percent. Preliminary figures for fall quarter 1974 indicate that enrollment growth has rebounded sharply from depressed 1973-1974 levels (apparently in response to a greater availability of gasoline).

Current program offerings in the Community College System are divided into two broad categories, curriculum and extension. Curriculum programs include college transfer, general education, technical, and vocational programs. Extension programs include occupational extension,

adult high school extension, and general adult extension, all of which are supported by regularly budgeted State funds; other extension programs include learning laboratory, adult basic education extension, CETA (Comprehensive Employment Training Act), new and expanding industry, and recreational extension, all of which are either self-supporting or are financed by Federal funds. A brief description of each of these program areas is as follows:

(1) Curriculum

(a) College transfer—planned academic programs of at least 96 quarter hours of credit leading to either an Associate in Arts or an Associate in Science degree and designed to allow for transfer to the junior year of a senior institution.

(b) General education--basic course work in English, literature, fine arts, philosophy, social science, science, and mathematics. This program is designed principally for students who desire two years of general education beyond the high school. Successful completion of 96 quarter hours of credit leads to an Associate Degree in General Education. Students who are not enrolled in a regular curriculum degree program are listed as special credit students and are included in the general education category. Special credit students currently comprise approximately 88 percent of the enrollments in general education. General education associate degree programs are currently offered at approximately 20 technical institutes.

(c) Technical—two year occupational programs designed to prepare individuals for employment. Successful completion leads to an Associate in Applied Science degree.

(d) Vocational--occupational programs designed to prepare an individual for employment in a specific occupation. These programs consist of a sequence of courses that generally can be completed in one year or less by a full-time student. Successful program completion leads to the award of either a diploma (one-year programs) or a certificate (programs of less than one year).

(2) Extension

(a) Occupational--single courses, each complete in itself, designed for the specific purposes of training an individual for employment, upgrading the skills of persons presently employed, and retraining others for new employment in occupational fields.

(b) Adult high school--classroom instruction, or learning laboratory courses, or a combination of both designed to qualify a student for an adult high school diploma under an Agreement of Affiliation or to prepare him successfully to demonstrate competency in the General Education Development Tests and to receive a High School Equivalency Certificate from the State Department of Public Instruction.

(c) General adult--short courses designed to refresh or otherwise serve the general educational interest of the adult population in the community.

(d) Learning laboratory--self-instruction using programmed text, audiovisual equipment, and other self-instructional materials. A Learning Laboratory Coordinator, who is always in the lab, has the function of bringing the instructional media and the student together on the basis of objective and subjective evaluation and of counseling, supervising, and encouraging persons working in the lab.

(e) Adult basic education--classes for adults 18 years of age or older who lack elementary education (grades one through eight). This program is funded 90 percent with Federal funds and 10 percent with State funds.

(f) CETA (Comprehensive Employment Training Act)--occupational training and basic education as needed for unemployed and disadvantaged persons. Training areas and students are selected by units of local government that qualify as prime sponsors under the legislation, or by the North Carolina Manpower Council for areas without local prime sponsors. This program supercedes the MDTA (Manpower Development and Training Act) program of previous years.

(g) New and expanding industry--supplies training needs for new industries that are moving into the State and for existing industries whose expansion results in the need for additional skilled manpower.

(h) Recreational--short courses providing instruction in various athletic areas, games, and hobbies designed to serve the general vocational interest of the community.

These categorizations do not reveal the full thrust of Community College System activities. Two notable areas of instructional programming include training programs for inmates of correctional institutions and the recent emergence of college transfer options offered by technical institutes.

Since the fall of 1965, institutions in the community college system have been sponsoring adult education and training programs for inmates in correctional units. Attendance in these programs is primarily on a voluntary basis. These programs include basic, high school, and occupational education and training courses of study.

An expanding aspect of the general education curricular program is the college transfer option. Currently 17 technical institutes are offering such an option by contracting with a senior college or university for instructional services. The instructional courses offered under contract are transferable to a senior college or university and usually consist of one or two years of general education. Additionally, two technical institutes and two community colleges offer the college transfer option utilizing their own instructional resources.

Enrollment growth by summary program area for the State and each multicounty planning region over the 1968-1969 to 1973-1974 period is presented in Tables II-4-State through II-4-R. Extension programs have been combined into occupational extension, adult extension (including adult high school extension, adult basic education extension, and learning laboratory), and general adult extension (including all other extension programs). Since program areas were redefined slightly between 1972-1973 and 1973-1974, the enrollment figures for adult extension and general adult extension are combined for 1973-1974 and placed in a separate (aggregate) category.

All enrollment figures are on an unduplicated headcount basis. This enrollment definition places each curriculum student in a single curriculum program, so that the sum of curriculum program enrollments equals the curriculum total. However, extension students may enroll and be counted in more than one extension program, although each extension student appears only once in the extension total. This results in the sum of extension program enrollments either equalling or exceeding the extension total.

Financial support for institutions in the community college system is provided from four sources: Federal government, State government, local (both private and public) sources, and students. In the beginning stages of operation, the distribution of operating costs was approximately as follows: State and Federal--55 percent, local--15 percent, and students--20 percent. However, the following distribution applies at the present time: State and Federal--85 percent, local--8 percent, and students--7 percent.

Equipment and library books are provided by the State and as of 1974 the State may also provide matching funds without limit for capital or permanent improvements. Additional capital funds may also be provided to qualifying institutions through Federal acts. Salaries and travel of administrative and instructional personnel and the cost of supplies and materials are also paid by the State.

Acquisition of land and erection of buildings is a local responsibility beyond any assistance which may be provided by the State or Federal government. Current expense involved in the operation and maintenance of the plant is also a local responsibility. Local funds may also be used to supplement any State budget item.

Table II-4-State

North Carolina Community System Student Enrollments[1/]

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.4	13,734	12,826	13,701	17,371	14,889	12,243
General Education	0.6	22,179	16,990	11,634	1,419	563	
Technical	1.2	42,503	34,360	29,142	28,953	23,651	19,016
Vocational	0.6	21,711	20,290	17,279	15,233	12,197	10,795
Curriculum Total	2.8	100,127	84,466	71,776	62,976	51,300	42,054
Occupational Extension	5.7	201,280	171,461	150,718	124,103	103,383	86,146
Adult Extension			55,036	54,835	52,670	45,492	41,270
Academic & Recreation Extension[2/]	3.2	113,272					
General Adult			143,466	126,219	118,265	93,427	71,381
Extension Total	8.5	300,093	346,708	315,503	295,038	241,302	198,797
[illegible]	11.3	400,220	431,174	387,279	358,014	293,602	240,851

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-A

North Carolina Community System Student Enrollments[1/]
Region A

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	1.4	1,204	898	370	93	94	
Technical	1.1	899	692	669	654	487	380
Vocational	1.4	1,150	1,126	1,101	745	510	346
Curriculum Total	3.9	3,253	2,716	2,140	1,494	1,067	726
Occupational Extension	6.4	5,402	6,233	4,529	3,749	3,189	4,400
Adult Extension			1,013	1,096	1,124	934	756
Academic & Recreation Extension[2/]	2.7	2,316					
General Adult			3,714	4,792	4,520	3,670	2,511
Extension Total	8.6	7,313	9,943	9,575	9,393	7,793	7,667
Grand Total	12.5	10,568	12,659	11,715	10,887	8,860	8,393

Community Colleges in Region A:

Haywood Technical Institute
Southwestern Technical Institute (Jackson County)
Tri-County Technical Institute (Cherokee County).

[1/], [2/], [3/] Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-B

North Carolina Community System Student Enrollments[1/]
Region B

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.1	208	150	40			
Technical	0.9	1,374	1,356	1,186	939	705	629
Vocational	0.4	703	664	577	430	296	318
Curriculum Total	1.4	2,285	2,170	1,803	1,369	1,001	947
Occupational Extension	3.2	5,127	6,216	6,565	5,121	3,044	3,670
Adult Extension			2,292	2,261	2,411	1,516	1,148
Academic & Recreation Extension[2/]	2.5	4,059					
General Adult			2,075	2,846	1,807	1,038	722
Extension Total	5.4	8,832	9,986	11,227	9,339	5,598	5,540
Grand Total	6.8	11,117	12,156	13,030	10,708	6,599	6,487

Community Colleges in Region B:

Asheville-Buncombe Technical Institute
Blue Ridge Technical Institute (Henderson County)

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-C

North Carolina Community System Student Enrollments[1/]
Region C

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.3	343	310	240	474	406	490
General Education	0.2	212	185	261	27	10	
Technical	1.1	1,274	649	461	493	395	335
Vocational	0.6	716	808	660	536	386	362
Curriculum Total	2.2	2,545	1,952	1,622	1,530	1,197	1,187
Occupational Extension	4.5	5,185	4,555	4,257	3,933	3,593	2,068
Adult Extension			1,351	1,721	1,696	1,041	977
Academic & Recreation Extension[2/]	3.3	3,789					
General Adult			4,431	3,723	3,372	2,880	2,435
Extension Total	7.5	8,515	9,713	9,266	9,001	7,514	5,480
Grand Total	9.7	11,060	11,665	10,888	10,531	8,711	6,667

Community Colleges in Region C:

Cleveland County Technical Institute
Isothermal Community College (Rutherford County)
McDowell Technical Institute

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-D

North Carolina Community System Student Enrollments[1/]
Region D

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1969-68
College Transfer	0.4	401	431	506	429	408	302
General Education	0.8	793	149	7			
Technical	1.5	1,530	1,172	984	543	716	605
Vocational	0.3	316	239	119	116	111	118
Curriculum Total	3.0	3,040	1,991	1,616	1,088	1,235	1,025
Occupational Extension	3.6	3,628	3,293	3,010	848	831	634
Adult Extension			1,030	711	502	390	556
Academic & Recreation Extension[2/]	2.8	2,892					
General Adult			3,467	3,252	3,301	2,609	851
Extension Total	6.0	6,107	7,377	6,639	4,651	3,830	2,041
Grand Total	9.0	9,147	9,368	8,255	5,739	5,065	3,066

Community Colleges in Region D:

Mayland Technical Institute (Mitchell County)
Wilkes Community College

1/,2,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-E

North Carolina Community System Student Enrollments[1/]
Region E

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.5	859	893	969	1,036	810	649
General Education	1.4	2,264	1,281	771	12	124	
Technical	1.6	2,515	2,036	2,013	2,497	2,094	1,831
Vocational	0.6	902	837	834	841	828	910
Curriculum Total	4.1	6,540	5,047	4,587	4,386	3,856	3,390
Occupational Extension	11.7	18,834	16,877	14,159	11,448	9,935	5,885
Adult Extension			3,216	2,726	2,914	3,046	2,564
Academic & Recreation Extension[2/]	5.8	9,305					
General Adult			13,645	11,872	11,227	10,220	7,272
Extension Total	16.6	26,662	31,970	27,541	25,589	23,221	15,721
Grand Total	20.7	33,202	37,017	32,128	29,975	27,077	19,111

Community Colleges in Region E:

Caldwell Community College and Technical Institute
Catawba Valley Technical Institute
Western Piedmont Community College (Burke County)

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-F

North Carolina Community System Student Enrollments[1/]
Region F

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.8	4,665	4,387	4,800	7,324	6,510	4,949
General Education	1.3	8,228	6,494	4,844	441	3	
Technical	1.4	8,527	7,873	6,900	6,811	3,367	4,265
Vocational	0.4	2,638	2,578	2,640	2,555	1,958	1,963
Curriculum Total	3.9	24,058	21,332	19,184	17,131	13,838	11,177
Occupational Extension	4.1	24,998	20,230	13,987	9,417	8,931	8,311
Adult Extension			7,335	6,759	8,427	7,682	7,323
Academic & Recreation Extension[2/]	2.3	13,950					
General Adult			9,994	8,081	8,339	8,040	5,665
Extension Total	6.1	37,519	35,853	27,812	26,183	24,653	21,299
Grand Total	10.0	61,577	57,185	46,996	43,314	38,491	32,476

Community Colleges in Region F:

Central Piedmont Community College (Mecklenberg County)
Gaston College
Mitchell Community College[3/] (Iredell County)
Rowan Technical Institute
Stanly Technical Institute

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-G

North Carolina Community System Student Enrollments[1/]
Region G

Program	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.4	2,742	2,064	2,130	2,617	2,373	2,117
General Education	0.2	1,655	1,293	1,190	74		
Technical	1.0	6,741	5,441	4,889	4,714	3,864	3,195
Vocational	0.5	3,198	2,997	2,872	2,670	2,097	1,960
Curriculum Total	2.1	14,336	11,795	11,081	10,075	8,334	7,272
Occupational Extension	4.8	33,473	27,237	26,808	22,262	16,111	14,011
Adult Extension			9,651	9,621	10.029	8,462	6,799
Academic & Recreation Extension[2/]	2.7	18,568					
General Adult			25,557	18,662	14,661	9,424	7,252
Extension Total	7.1	49,706	59,072	52,974	46,952	33,997	28,062
Grand Total	9.2	64,042	70,867	64,055	57,027	42,331	35,334

Community Colleges in Region G:

Davidson County Community College
Forsyth Technical Institute
Guilford Technical Institute
Randolph Technical Institute
Rockingham Community College
Surry Community College
Technical Institute of Alamance

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-H

North Carolina Community System Student Enrollments[1]
Region H

Programs	1973-74 Percents[3]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.9	738	848	1,021	1,353	1,153	919
General Education	0.6	520	352	406	100	8	
Technical	1.8	1,503	1,225	1,100	1,221	1,119	814
Vocational	1.2	1,015	887	592	463	382	334
Curriculum Total	4.5	3,776	3,312	3,119	3,137	2,662	2,067
Occupational Extension	10.1	8,397	7,668	6,264	5,037	4,969	3,082
Adult Extension			2,372	2,745	2,608	1,692	1,523
Academic & Recreation Extension[1]	5.8	4,873					
General Adult			5,081	4,732	4,817	3,937	2,789
Extension Total	15.1	12,593	14,380	13,083	12,462	10,598	7,394
Grand Total	19.6	16,369	17,692	16,202	15,599	13,260	9,461

Community Colleges in Region H:

Anson Technical Institute
Montgomery Technical Institute
Richmond Technical Institute
Sandhills Community College (Moore County)

1/,2/,3/Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-J

North Carolina Community System Student Enrollments[1]
Region J

Programs	1973-74 Percents[3]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.3	1,405	1,146	496	106		
Technical	0.9	3,620	3,048	2,445	2,106	1,251	1,254
Vocational	0.5	1,822	1,775	1,377	892	670	808
Curriculum Total	1.7	6,847	5,969	4,318	3,104	1,921	2,062
Occupational Extension	3.8	14,951	10,753	11,770	8,217	7,991	5,966
Adult Extension			5,740	5,377	4,634	4,353	4,492
Academic & Recreation Extension[2]	2.2	8,546					
General Adult			10,695	10,191	5,379	4,234	3,224
Extension Total	5.8	22,850	26,244	26,084	18,230	16,578	13,682
Grand Total	7.5	29,697	32,213	30,402	21,334	18,499	15,744

Community Colleges in Region J:

Central Carolina Technical Institute (Lee County)
Durham Technical Institute
Johnston Technical Institute
Wake Technical Institute

1/,2/,3/Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-K

North Carolina Community System Student Enrollments[1/]
Region K

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.0	76	728	385			
Technical	1.1	1,012	744	464	281		
Vocational	1.3	1,167	633	404	360		
Curriculum Total	2.4	2,255	2,105	1,253	641		
Occupational Extension	5.0	4,609	3,701	3,235	1,107	337	
Adult Extension	3.7		1,460	1,222	987	324	
Academic & Recreation Extension[2/]	3.7	3,362					
General Adult			3,178	3,233	2,437	1,008	
Extension Total	8.3	7,557	8,023	7,335	4,531	1,669	
Grand Total	10.7	9,812	10,128	8,588	5,172	1,669	

Community Colleges in Region K:

Piedmont Technical Institute (Person County)
Vance-Granville Technical Institute

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-L

North Carolina Community System Student Enrollments[1/]
Region L

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	1.0	1,684	1,249	472	100		
Technical	0.9	1,440	1,131	1,058	1,062	907	690
Vocational	0.7	1,167	1,305	1,060	957	619	479
Curriculum Total	2.6	4,291	3,685	2,590	2,125	1,526	1,169
Occupational Extension	5.7	9,340	8,199	9,091	9,388	7,934	5,649
Adult Extension			2,969	2,878	2,781	2,410	3,005
Academic & Recreation Extension[2/]	2.9	4,813					
General Adult			5,806	3,744	3,588	2,746	2,025
Extension Total	8.4	13,648	16,296	15,040	15,757	13,099	10,679
Grand Total	11.0	17,939	19,981	17,630	17,882	14,625	11,848

Community Colleges in Region L:

Edgecombe Technical Institute
Halifax County Technical Institute
Nash Technical Institute
Wilson County Technical Institute

1/,2/,3/ Footnotes same as in Table II-4-State.
Source same as in Table II-4-State.

Table II-4-M

North Carolina Community System Student Enrollments[1/]
Region M

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.4	873	861	352	54	38	
Technical	2.1	4,217	2,561	1,035	1,267	1,150	803
Vocational	0.7	1,505	1,520	617	516	448	319
Curriculum Total	3.2	6,595	4,942	2,004	1,837	1,636	1,122
Occupational Extension	4.1	8,408	5,841	5,586	4,946	5,065	4,463
Adult Extension			1,914	2,029	1,872	1,556	1,286
Academic & Recreation Extension[2/]	2.6	5,271					
General Adult			3,738	3,007	5,141	2,907	1,281
Extension Total	6.4	13,189	10,889	10,259	11,959	9,528	7,030
Grand Total	9.6	19,784	15,831	12,263	13,796	11,164	8,152

Community Colleges in Region M:

Fayetteville Technical Institute (Cumberland County)
Sampson Technical Institute

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-N

North Carolina Community System Student Enrollments[1/]
Region N

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.2	243	357	116	67	68	
Technical	0.6	617	396	328	220	252	144
Vocational	0.8	783	738	576	454	379	237
Curriculum Total	1.6	1,643	1,491	1,020	741	699	381
Occupational Extension	4.4	4,451	3,275	2,460	2,502	2,883	2,794
Adult Extension			1,089	1,425	1,302	1,083	923
Academic & Recreation Extension[2/]	2.4	2,404					
General Adult			2,612	2,303	1,850	1,190	516
Extension Total	6.6	6,602	6,776	5,929	5,654	5,156	4,233
Grand Total	8.2	8,245	8,276	6,949	6,395	5,855	4,614

Community Colleges in Region N:

Bladen Technical Institute
Robeson Technical Institute

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-O

North Carolina Community System Student Enrollments[1/]
Region O

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.6	704	868	885	942	836	664
General Education	0.3	364	77	222			
Technical	0.9	1,099	1,032	1,020	876	859	582
Vocational	0.6	748	645	661	497	483	389
Curriculum Total	2.3	2,915	2,622	2,788	2,315	2,178	1,635
Occupational Extension	8.6	10,798	11,067	9,313	8,437	8,478	7,835
Adult Extension			1,480	2,242	1,731	1,504	1,688
Academic & Recreation Extension[2/]	3.6	4,530					
General Adult			6,367	6,881	5,433	3,258	2,803
Extension Total	11.5	14,396	17,531	17,320	15,601	13,240	12,326
Grand Total	13.8	17,311	20,153	20,108	17,916	15,418	13,961

Community Colleges in Region O:

Cape Fear Technical Institute (New Hanover County)
Southeastern Community College (Columbus County)

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-P

North Carolina Community System Student Enrollments[1/]
Region P

Programs	1973-74 Percents[3/]	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	1.0	2,794	2,476	2,537	2,328	1,620	1,407
General Education	0.4	1,205	1,195	1,157	259	174	
Technical	1.5	3,955	3,224	2,912	3,473	3,031	2,454
Vocational	1.0	2,681	2,487	2,183	2,272	2,177	1,607
Curriculum Total	3.9	10,635	9,382	8,789	8,332	7,002	5,468
Occupational Extension	10.7	29,043	23,231	19,609	16,350	10,859	11,585
Adult Extension			8,055	8,251	5,886	5,236	4,854
Academic & Recreation Extension[2/]	6.7	8,143					
General Adult			29,262	28,613	32,121	27,375	23,659
Extension Total	16.3	44,423	55,752	52,803	54,357	43,470	42,098
Grand Total	20.2	55,058	65,134	61,592	62,689	50,472	47,566

Community Colleges in Region P:

Carteret Technical Institute
Coastal Carolina Community College (Onslow County)
Craven Technical Institute
James Sprunt Institute (Duplin County)
Lenior Community College
Pamlico Technical Institute
Wayne Community College

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-Q

North Carolina Community System Student Enrollments[1/]
Region Q

Programs	1973-74 Percents	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer							
General Education	0.7	817	255	247	84	44	
Technical	1.4	1,642	1,320	1,2[illegible]	1,312	1,118	812
Vocational	0.5	646	605	594	4[illegible]	420	393
Curriculum Total	2.6	3,105	2,180	2,132	1,849	1,582	1,205
Occupational Extension	7.8	9,224	10,372	7,156	7,721	6,481	3,515
Adult Extension			2,271	1,997	1,895	2,539	1,743
Academic & Recreation Extension[2/]	3.1	3,684					
General Adult			6,290	5,457	5,625	5,593	4,692
Extension Total	10.5	12,421	17,461	13,828	15,241	14,618	9,950
Grand Total	13.1	15,526	19,641	15,960	17,090	16,200	11,155

Community Colleges in Region Q:

Beaufort County Technical Institute
Martin Technical Institute
Pitt Technical Institute

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

Table II-4-R

North Carolina Community System Student Enrollments[1/]
Region R

Programs	1973-74 Percents	1973-74	1972-73	1971-72	1970-71	1969-70	1968-69
College Transfer	0.7	488	549	613	868	773	746
General Education	0.7	428	320	318			
Technical	0.8	538	460	387	478	360	223
Vocational	0.8	554	446	412	476	433	252
Curriculum Total	3.0	2,008	1,775	1,730	1,822	1,566	1,221
Occupational Extension	8.1	5,412	2,713	2,919	3,620	2,723	2,278
Adult Extension			1,798	1,774	1,871	1,724	1,633
Academic & Recreation Extension[2/]	4.1	2,767					
General Adult			5,554	4,820	4,647	3,293	1,684
Extension Total	11.6	7,758	9,442	8,788	10,138	7,740	5,595
Grand Total	14.6	9,766	11,217	10,518	11,960	9,306	6,816

Community Colleges in Region R:

College of Albemarle (Pasquotank County)
Roanoke-Chowan Technical Institute (Hertford County)

[1/] Unduplicated headcount enrollment.

[2/] Prior to 1973-1974 Academic and Recreation Extension was listed as Adult Extension and General Adult.

[3/] 1973-1974 enrollment as a percentage of population aged 18 and over.

Source: Annual Enrollment Reports, North Carolina Department of Community Colleges, State Board of Education, Raleigh, North Carolina.

III. UNMET NEEDS IN 1970 AND PROJECTIONS OF ECONOMIC ACTIVITY FOR LONG-RANGE PLANNING

A. Introduction

This section presents unmet training needs in 1970 that are relevant for Community College System planning for the 1975-1985 decade and discusses the projection results for 1975-1985 from the manpower-directions model. As indicated by the discussion of this model in Appendix A, the model is demand oriented and does not consider the structure of wage rates among occupations and how this structure may affect either the career decisions of labor force new entrants or the movement among occupations by presently employed members of the labor force. It is further recognized that economic activity projections represent but one input into the planning process for educational offerings; this input is certainly less important for college transfer curriculum planning than for either technical or vocational curriculum planning. These projections are then directly relevant to the Department of Community College's legislative mandate to provide education and training opportunities supportive of the North Carolina labor market, but only indirectly relevant to the primary legislative mandate to provide comprehensive education opportunities for the adult citizens of North Carolina.

B. Summary of Total Training Requirements

1. Results

Table III-1 presents a summary of training requirements facing the Community College System over the 1975-1985 decade. Training requirements in each broad instructional area are listed and broken down by source; and two sources considered here are 1970 unmet needs (labor force related and nonlabor-force related) and requirements projected to arise from labor force and employment projections over the 1970-1985 period.

The average annual unduplicated headcount enrollments in Table III-1 for the 1975-1985 decade represent increases above the enrollments prevailing in 1972-1973 in each program area. This result is consistent with continued growth in the role of the North Carolina Community College System in the total educational picture.

Table III-1

Community College System Statewide Training Requirements Over 1975-1985 Decade

Source	Broad Instructional Area[1]							
	Curriculum Programs				Extension Programs			
	College Transfer	Technical	Vocational	General Education	Occupational	Adult High School	Adult Basic	Adult General
1970	159,194	73,065	39,345	-	65,485	675,221	357,066	-
Labor Force	41,600	73,065	39,345	-	65,485	115,942	33,160	-
Non-Labor Force	117,594	0	0	-	0	559,279	323,906	-
1970-1985	39,456	390,375	210,200	-	2,550,000	296,800	45,120	-
Labor Force	39,456	390,375	210,200	-	2,550,000	296,800	45,120	-
Non-Labor Force	-	-	-	-	-	-	-	-
Total	198,650	463,440	249,545	262,220	2,615,485	972,021	402,186	2,205,600
Implications for 1975-1985:								
Average Annual Net Requirements	13,245	30,896	16,636	17,481	174,365	64,801	26,812	147,040
Average Annual Graduates Required	14,660	39,570	21,307	17,481	193,255	69,750	27,815	147,040
Average Annual Enrollments Required[2]	17,880	53,475	29,190	33,620	215,000	106,765	60,465	165,000

[1] Blanks represent instructional areas or sources of requirements for which no separate estimates were made.

[2] Unduplicated headcount enrollments.

Source: Research Triangle Institute.

Sharpest increases above 1973-1974 levels are indicated in the following areas:

(a) Curriculum Programs

(1) vocational--projected enrollments are 29,190 compared with 21,711, a 34-percent increase.

(2) technical--projected average annual unduplicated head-count enrollments are 53,475 compared with 42,503 in 1973-1974, a 26-percent increase.

(b) Extension Programs

(1) fundamental education--projected enrollments for adult basic education and adult high school education are 167,230 compared with 56,532, an increase of 196 percent.

(2) occupational--projected enrollments are 215,000 compared with 201,280, an increase of seven percent.

College transfer programs and general education curriculum programs are also increased substantially, but the numbers presented here may actually underestimate total requirements in these areas since no attempt has been made to estimate nonlabor-force requirements over the 1975-1985 decade. The extent of this downward bias is unknown at this time.

These increased enrollments imply continued growth in Community College System staffing and expenditive requirements. Assuming a continuation in current staffing patterns this enrollment growth will require an annual average instructional staff of 7,600 persons over the 1975-1985 decade, an increase of over 31 percent from the 1973-1974 level of 5,786 persons.

Instructional expenditures are expected to grow from $53,195,564 in 1973-1974 to an annual average of $72,244,000 (in 1973-1974 dollars) over the 1975-1985 decade. This figure is exclusive of any inflation allowance. Noninstructional current expenditures are expected to grow from $35,345,982 in 1973-1974 to an annual average of $48,002,000 (in 1973-1974 dollars) over the 1975-1985 decade. Both increases represent a rate of growth of 36 percent.

Equipment expenditures will likely grow from $53,204,442 in 1973-1974 to an annual average of $72,255,000 (in 1973-1974 dollars) over the 1975-1985 decade if current equipment requirements per student

prevail into the future. Construction expenditures required to support enrollment growth are likely to rise from $78,428,932 during the 1973-1975 biennium to a biennial average of $103,874,000 (in 1973-1974 dollars) over the 1975-1985 decade if the current ratio of floor space per student is maintained. If the recommended level of 150 square feet per full-time equivalent student is to be attained during the planning period, construction expenditures would rise to a biennial average of $168,179,000 (in 1973-1974 dollars) over this same period. Neither of these construction expenditure projections include expenditures to renovate or to replace any existing facilities.

2. Methodology

The procedures used to develop the entries in Table III-1 are described in the following paragraphs. As discussed previously, these entries were derived by estimating unmet education and training needs in 1970--both labor market needs and needs in the general population--and adding these to requirements projected over the 1970-1985 period. These total training requirements are estimated for broad instructional areas relevant to Community College System long-range planning.

Total training requirements in each broad instructional area are divided by 15 to place these requirements on an annual basis. These numbers are net in the sense that they represent the training requirements that remain after the output of the systems of secondary schools and higher education have been taken into account. To translate these numbers into numbers of graduates required, estimates of labor-force participation by broad instructional area were applied to 1975-1985 requirements in each category and then added to the requirements carried forward from 1970. These estimates were developed from estimates of labor force participation by age, sex, and educational attainment extracted from the U.S. Census public use sample one-in-one hundred files for county groups in North Carolina; they will be refined when program-specific information becomes available from student followup information currently being processed by the Department of Community Colleges. The estimates accepted for this effort

Finally, broad instructional area enrollments are derived from the numbers of graduates required by applying estimates of program completion and related measures maintained by the Department of Community

Colleges. The estimates accepted for this effort were for all students who either completed, transferred, continued, or else withdrew early with marketable skills. The application of any subset of the estimates (such as program completions alone) to the number of graduates required produced unrealistically large estimates of broad instructional area enrollments, so that estimates of students who did not withdraw before at least obtaining some marketable skills were substituted for estimates of program completers alone.

Three exceptions to this general estimation procedure were employed. These exceptions included estimates for requirements in the occupational extension, general adult extension, and general education curriculum programs. To estimate occupational extention training requirements, it was assumed that these needs are primarily related to the desires of the employed labor force to either change jobs or to upgrade their skills in their present positions. Estimates of occupational mobility over the projection period were made with the aid of the 1970 Census of Population[1/] as a crude means to approximate these desires. An occupational mobility rate of 3.3 percent per year was computed as the number of workers who shift jobs per year over the 1965-1970 period divided by the average number of jobs over the entire period. Application of this rate to the average number of jobs prevailing over the 1970-1985 period, and assuming that training will be required for jobs into which these persons move as well as for the jobs these people leave behind (so that other persons may be trained for them), yielded training needs averaging 172,000 per year over the projection period for the occupational extension program; this number does not reflect completion rates in this program, so that actual program enrollments would be larger than the 172,000 figure.

The training needs for occupational mobility as estimated here were not subtracted from the training needs estimated by the manpower directions model, since the latter did not expressly consider geographic mobility. Again referring to 1970 Census of Population[2/] estimates,

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[1/] U.S. Bureau of the Census, "North Carolina Detailed Characteristics," U.S. Census of Population 1970, PC(1)-D35 N.C., Table 178.

[2/] U.S. Bureau of the Census, "Migration Between State Economic Areas," U.S. Census of Population 1970, PC(2)-2E, Table 2.

the outmigration of persons of labor-force age between 1965 and 1970 multiplied by the 1970 aggregate labor-force participation rate was in extremely close balance with the number of persons changing jobs over the period. Thus if one assumes rough balance between job openings that occur as labor force members outmigrate from the State and occupational mobility over a similar period of the resident labor force, then no adjustments need be made in the occupational requirements projected by the manpower directions model. It is recognized that some of these training needs for occupational mobility may be served outside the Community College System--such as through private institutions or on-the-job training--but inasmuch as using the census results to estimate occupational mobility, which does not include mobility within major occupation groups, underestimates the true occupational mobility rate, then it is assumed that the errors in the opposite direction are to some extent offsetting.

General education curriculum program requirements were estimated by applying the 1972-1973 ratio between general education unduplicated headcount enrollments and those for the college transfer program. This particular procedure was adopted for two basic reasons:

(a) the objectives and offerings in this program area are very similar to those in the college transfer program area;

(b) this has been a rapidly growing program area since 1969, so that trend extrapolation would have produced unrealistically large requirement results.

General adult extension program requirements were estimated in a similar fashion; since this program area caters primarily to the avocational interests of persons in each community, the 1972-1973 ratio of unduplicated headcount enrollments in this program area to those in all other areas combined was employed.

Translation of requirements in each of these three areas to graduates and then to enrollments was made in the following fashion:

(a) the labor force participation rate of occupational extension graduate was assumed as 90 percent in the absence of any other information;

(b) since general education curriculum and general adult extension programs do not typically cater to labor force needs,

these requirements were translated into graduates on a one-for-one basis;

(c) program completions (or more precisely, nonwithdrawals) in each area were assumed to be 90 percent in the absence of further information; these rates are larger than comparable rates for other programs because of the typical short duration of course work in these areas.

Finally, State-level expenditure projections associated with these enrollment projections were made with the aid of expenditive per full-time equivalent enrollment planning factors provided by the Department of Community Colleges and with conversion factors from unduplicated headcount enrollments to full-time equivalent enrollment for each program area derived from the last four years of System operating experience. Staffing projections were made on the basis of average pupil-staff ratios prevailing over this same period.

C. Total Training requirements by Source and Region

1. 1970 Unmet Needs

Unmet needs existing in 1970 were computed by comparing the educational-attainment distribution of the North Carolina population aged 16+ in 1970 with that of their U.S. counterparts. This population includes persons both in and out of the labor force. Although some of these persons can be expected to enroll in curriculum programs, the great majority are likely candidates for extension offerings.

Table III-2 presents the unmet training needs for the State and for each multicounty planning region for the following four educational attainment categories:

(1) 0-7 years of elementary school,

(2) 8-11 years of junior high and high school,

(3) high school graduate (including persons with postsecondary training not leading to an academic degree),

(4) some college (which leads to an academic degree).

Availabilities at each level were obtained from special tabulations of data from the U.S. Census of Population.[1/] Requirements were derived

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[1/] North Carolina Manpower Council, "Manpower Planning Papers," 1973.

by applying the educational-attainment distribution of the U.S. population aged 16+ in 1970 to total availabilities in the geographical area of interest. Unmet training needs were then derived by comparing availabilities with requirements at each level. A reconciliation procedure used to balance availabilities with requirements first withdrew persons from the "high school graduate" availabilities pool to balance availabilities with requirements at the "some college" level. Persons were then withdrawn from the 8-11 availabilities pool to balance the adjusted availabilities pool at the "high school graduate" level with "high school graduate" requirements, and so forth. Whenever availabilities (even after adjustments) exceeded requirements at a given level, no training needs were recorded.

Training needs at the "some college" level can be addressed through extension offerings in the system of higher education and through curricular offerings in the college transfer and general education programs in the Community College System. These needs were allocated on a 50-50 basis between the system of higher education and the Community College System at the State level in a previous RTI planning effort.[1/] A similar allocation can be performed here after taking into account differential completion rates between similar college-level programs in the two systems.

Training needs at the other levels are primarily the domain of adult high school education extension and adult basic education extension programs in the Community College System at the present time. The one exception to this statement is the night high school program recently initiated by the secondary schools in North Carolina. The study previously referenced (Cruze, 1974) allocated 25 percent of training needs at the high school level to the night high school program and the remainder to the adult high school education extension program in the Community College System on a statewide basis.

2. 1970-1985 Occupational and Training Requirements

Occupational and training requirements for the 1970-1985 period as projected by the manpower-directions model are presented in Tables III-3

1/ Alvin M. Cruze, et al., North Carolina Educational Policy Plans for the 1970's, Research Triangle Institute, Research Triangle Park, N.C., April 1974.

through III-5. A list of the 128 individual occupational categories and the 36 industry groups for which projections were made at the State and the multicounty planning region level is presented in Appendix B. Full detail on the output of the modelling effort is presented in Appendix C for the State only; similar output is available for multicounty planning regions but is not presented in this document, although summaries of this information are presented in Tables III-3 through III-5. This information is intended for more detailed planning at the State level and for institutional planning purposes.

The separate projections of employment by industry for the State and multi-county planning regions as reported in Table III-3 and explained in Appendix A include estimates of multiple-job holding by industry. These industry "job" projections are converted into occupational employment projections by the manpower projections model, and the latter are reported in Table III-4 as 1985 occupational employment. Occupational requirements in this table are computed as the sum of two components, as follows:

(1) jobs opening up as a result of industrial growth, or conversely, jobs closing as a result of industrial decline,

(2) jobs becoming available as presently employed workers die, retire, or otherwise permanently separate from the labor force.

Educational attainment projections represent projected educational attainment patterns of U.S. workers aged 25-34 for the individual occupations in which they are employed. This target was chosen for the following reasons:

1) it is the youngest age cohort for which aggregate educational attainment patterns are projected at the national level,

2) this age cohort typically embodies higher levels of educational attainment than older age cohorts.

Thus these educational attainment targets, occupation by occupation, were deliberately set high and represent the levels of training that should be provided to labor-force new entrants in North Carolina to put them on an equal footing with their national counterparts.

Table III-2-State

Unmet Training Needs in 1970
North Carolina Total

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	515,834	13.8	872,900	23.4	0	0
8 - 11	1,352,137	36.2	1,412,297	37.8	357,066	38.3
HSG and PST[1/]	1,107,561	29.7	849,529	22.7	417,226	44.5
Some College	758,922	20.3	599,728	16.1	159,194	17.2
Total	3,734,454	100.0	3,734,454	100.0	933,486	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-A

Unmet Training Needs in 1970
Region A

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	12,182	13.8	31,074	35.2	0	0
8 - 11	31,957	36.2	29,044	32.9	18,892	43.9
HSG and PST[1/]	26,219	29.7	18,450	20.9	15,979	37.1
Some College	17,921	20.3	9,711	11.0	8,210	19.0
Total	88,279	100.0	88,279	100.0	43,081	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-B

Unmet Training Needs in 1970
Region B

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	23,573	13.8	40,142	23.5	0	0
8 - 11	61,836	36.2	50,220	29.4	16,569	77.0
HSG and PST[1/]	50,732	29.7	44,754	26.2	4,953	23.0
Some College	34,676	20.3	35,701	20.9	0	0
Total	170,817	100.0	170,817	100.0	21,522	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-C

Unmet Training Needs in 1970
Region C

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	16,579	13.8	37,723	31.4	0	0
8 - 11	43,489	36.2	43,730	36.4	21,144	40.6
HSG and PST[1/]	35,681	29.7	23,787	19.8	21,385	41.1
Some College	24,388	20.3	14,897	12.4	9,491	18.3
Total	120,137	100.0	120,137	100.0	52,020	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-D

Unmet Training Needs in 1970
Region D

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	14,611	13.8	41,397	39.1	0	0
8 - 11	38,326	36.2	32,927	31.1	26,786	45.8
HSG and PST[1/]	31,445	29.7	20,328	19.2	21,387	36.6
Some College	21,492	20.3	11,222	10.6	10,270	17.6
Total	105,874	100.0	105,874	100.0	58,443	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-E

Unmet Training Needs in 1970
Region E

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	22,909	13.8	48,806	29.4	0	0
8 - 11	60,094	36.2	60,260	36.3	25,897	41.5
HSG and PST[1/]	49,304	29.7	33,699	20.3	26,063	41.8
Some College	33,699	20.3	23,241	14.0	10,458	16.7
Total	166,006	100.0	166,006	100.0	62,418	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-F

Unmet Training Needs in 1970
Region F

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	88,102	13.8	160,244	25.1	0	0
8 - 11	231,109	36.2	221,533	34.7	72,142	50.0
HSG and PST[1/]	189,611	29.7	136,622	21.4	62,566	43.4
Some College	129,600	20.3	120,023	18.8	9,577	6.6
Total	638,422	100.0	638,422	100.0	144,285	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-G

Unmet Training Needs in 1970
Region G

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	100,278	13.8	199,829	27.5	0	0
8 - 11	263,048	36.2	248,514	34.2	99,551	47.7
HSG and PST[1/]	215,815	29.7	154,777	21.3	85,017	40.8
Some College	147,510	20.3	123,531	17.0	23,979	11.5
Total	726,651	100.0	726,651	100.0	208,547	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-H

Unmet Training Needs in 1970
Region H

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	12,140	13.8	28,855	32.8	0	0
8 - 11	31,846	36.2	30,350	34.5	16.715	42.9
HSG and PST[1/]	26,127	29.7	17,946	20.4	15,219	39.1
Some College	17,858	20.3	10,820	12.3	7,038	18.0
Total	87,971	100.0	87,971	100.0	38,972	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-J

Unmet Training Needs in 1970
Region J

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	56,242	13.8	97,405	23.9	0	0
8 - 11	147,535	36.2	116,560	28.6	41,163	80.2
HSG and PST[1/]	121,044	29.7	88,032	21.6	10,188	19.8
Some College	82,733	20.3	105,557	25.9	0	0
Total	407,554	100.0	407,554	100.0	51,351	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-K

Unmet Training Needs in 1970
Region K

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	13,445	13.8	35,660	36.6	0	0
8 - 11	35,270	36.2	33,613	34.5	22,215	42.9
HSG and PST[1/]	28,937	29.7	17,440	17.9	20,558	39.6
Some College	19,778	20.3	10,717	11.0	9,061	17.5
Total	97,430	100.0	97,430	100.0	51,834	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-L

Unmet Training Needs in 1970
Region L

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	24,112	13.8	65,523	37.5	0	0
8 - 11	63,252	36.2	55,389	31.7	41,411	46.5
HSG and PST[1/]	51,894	29.7	32,325	18.5	33,548	37.8
Some College	35,470	20.3	21,491	12.3	13,979	15.7
Total	174,728	100.0	174,728	100.0	88,938	100.0

1/ High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-M

Unmet Training Needs in 1970
Region M

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	30,683	13.8	49,805	22.4	0	0
8 - 11	80,488	36.2	70,483	31.7	19,122	53.8
HSG and PST[1/]	66,036	29.7	64,257	28.9	9,117	25.6
Some College	45,136	20.3	37,798	17.0	7,338	20.6
Total	222,343	100.0	222,343	100.0	35,577	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-N

Unmet Training Needs in 1970
Region N

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	14,520	13.8	39,035	37.1	0	0
8 - 11	38,088	36.2	35,668	33.9	24,515	44.8
HSG and PST[1/]	31,249	29.7	17,255	16.4	22,095	40.4
Some College	21,358	20.3	13,257	12.6	8,101	14.8
Total	105,215	100.0	105,215	100.0	54,711	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-O

Unmet Training Needs in 1970
Region O

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	17,193	13.8	33,139	26.6	0	0
8 - 11	45,099	36.2	42,109	33.8	15,946	45.9
HSG and PST[1/]	37,001	29.7	29,900	24.0	12,956	37.3
Some College	25,290	20.3	19,435	15.6	5,855	16.8
Total	124,583	100.0	124,583	100.0	34,757	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-P

Unmet Training Needs in 1970
Region P

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	41,171	13.8	79,956	26.8	0	0
8 - 11	108,000	36.2	96,066	32.2	38,785	47.4
HSG and PST[1/]	88,608	29.7	77,868	26.1	26,851	32.9
Some College	60,564	20.3	44,453	14.9	16,111	19.7
Total	298,343	100.0	298,343	100.0	81,747	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-Q

Unmet Training Needs in 1970
Region Q

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	17,909	13.8	44,903	34.6	0	0
8 - 11	46,980	36.2	39,323	30.3	26,994	53.1
HSG and PST[1/]	38,544	29.7	23,749	18.3	19,337	38.0
Some College	26,345	20.3	21,803	16.8	4,542	8.9
Total	129,778	100.0	129,778	100.0	50,873	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-2-R

Unmet Training Needs in 1970
Region R

Years of Schooling	Requirements	Percent	Avail-abilities	Percent	Training Needs	Percent
0 - 7	9,704	13.8	23,558	33.5	0	0
8 - 11	25,457	36.2	24,332	34.6	13,854	43.8
HSG and PST[1/]	20,886	29.7	13,221	18.8	12,729	40.2
Some College	14,276	20.3	9,212	13.1	5,064	16.0
Total	70,323	100.0	70,323	100.0	31,647	100.0

[1/] High school graduates with post-secondary technical or vocational training.
Source: Research Triangle Institute.

Table III-3-State

Projected Employment for North Carolina by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	94,672	Wholesale Trade	116,596
Mining	5,023	Eating and Drinking Places	66,772
Construction	209,476	Auto and Gas Station	73,463
Food Products	54,848	Other Retail Trade	264,951
Tobacco Products	25,716	FIRE[1/]	115,367
Textiles	338,503	Lodging and Personal Services	81,248
Apparel	98,603	Business and Repairs	72,017
Lumber Products	33,306	Amusement and Recreation	18,866
Furniture and Fixtures	98,861	Private Household Work	53,008
Paper Products	24,075	Hospital and Health Work	145,343
Printing and Publishing	23,591	Education	249,774
Chemical Products	41,733	Other Professional Services	100,081
Primary Metals	9,557	Public Administration	127,652
Fabricated Metals	25,788	Total	2,947,990
Machinery except Electrical	49,896		
Electric Machinery	73,424		
Transportation Equipment	16,092		
Other Manufacturing	84,182		
Railway Transportation	9,935		
Trucking and Warehousing	53,434		
Other Transportation	26,321		
Communications	34,203		
Public Utilities	31,613		

1/ Finance, Insurance, and Real Estate.

Note: All projections are accurate only to nearest 100.

Source: Research Triangle Institute.

Table III-3-A

Projected Employment for Region A by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	1,708	Trucking and Warehousing	352
Mining	340	Other Transportation	368
Construction	4,470	Communications	490
Food Products	30	Public Utilities	619
Tobacco Products	0	Wholesale Trade	808
Textiles	1,796	Eating and Drinking Places	937
Apparel	1,893	Auto and Gas Stations	1,280
Lumber Products	658	Other Retail Trade	4,128
Furniture and Fixtures	2,492	FIRE[1]	857
Paper Products	3,261	Lodging and Personal Services	1,375
Printing and Publishing	42	Business and Repairs	266
Chemical Products	21	Amusement and Recreation	446
Primary Metals	38	Private Household Work	761
Fabricated Metals	101	Hospital and Health Work	2,437
Machinery except Electrical	563	Education	5,659
Electrical Machinery	222	Other Professional Services	1,729
Transportation Equipment	53	Public Administration	2,303
Other Manufacturing	5,151		
Railway Transportation	75	Total	47,729

[1] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-B

Projected Employment for Region B by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	1,976	Trucking and Warehousing	2,299
Mining	154	Other Transportation	1,040
Construction	8,102	Communications	1,444
Food Products	2,176	Public Utilities	1,283
Tobacco Products	0	Wholesale Trade	3,642
Textiles	5,925	Eating and Drinking Places	3,484
Apparel	3,066	Auto and Gas Stations	2,870
Lumber Products	1,600	Other Retail Trade	9,798
Furniture and Fixtures	633	FIRE[1/]	3,456
Paper Products	2,345	Lodging and Personal Services	3,661
Printing and Publishing	1,070	Business and Repairs	5,722
Chemical Products	5,195	Amusement and Recreational	709
Primary Metals	0	Private Household Work	1,355
Fabricated Metals	573	Hospital and Health Work	7,430
Machinery except Electrical	1,790	Education	8,482
Electrical Machinery	8,310	Other Professional Services	5,561
Transportation Equipment	1,334	Public Administration	4,485
Other Manufacturing	1,587		
Railway Transportation	384	Total	112,941

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-C

Projected Employment for Region C by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	1,627	Trucking and Warehousing	441
Mining	425	Other Transportation	372
Construction	4,341	Communications	477
Food Products	1,079	Public Utilities	902
Tobacco Products	0	Wholesale Trade	1,597
Textiles	25,788	Eating and Drinking Places	1,094
Apparel	4,38[illegible]	Auto and Gas Stations	1,637
Lumber Products	678	Other Retail Trade	5,531
Furniture and Fixtures	4,[illegible]2	FIRE[1/]	2,052
Paper Products	7[illegible]4	Lodging and Personal Services	1,702
Printing and Publishing	253	Business and Repairs	662
Chemical Products	3,407	Amusement and Recreation	388
Primary Metals	43	Private Household Work	1,918
Fabricated Metals	102	Hospital and Health Work	3,601
Machinery except Electrical	76	Education	5,823
Electrical Machinery	148	Other Professional Services	2,268
Transportation Equipment	24	Public Administration	2,402
Other Manufacturing	4,145	Total	85,278
Railway Transportation	183		

1/ Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-D

Projected Employment for Region D by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	3,749	Trucking and Warehousing	591
Mining	694	Other Transportation	92
Construction	3,120	Communications	307
Food Products	4,749	Public Utilities	384
Tobacco Products	0	Wholesale Trade	1,632
Textiles	2,478	Eating and Drinking Places	1,202
Apparel	5,622	Auto and Gas Stations	1,796
Lumber Products	770	Other Retail Trade	5,635
Furniture and Fixtures	3,604	FIRE[1/]	1,999
Paper Products	0	Lodging and Personal Services	2,231
Printing and Publishing	0	Business and Repairs	127
Chemical Products	97	Amusement and Recreation	489
Primary Metals	0	Private Household Work	947
Fabricated Metals	0	Hospital and Health Work	2,397
Machinery except Electrical	946	Education	6,218
Electrical Machinery	4,404	Other Professional Services	1,853
Transportation Equipment	707	Public Administration	2,395
Other Manufacturing	1,333		
Railway Transportation	143	Total	62,711

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-E

Projected Employment for Region E by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	1,165	Trucking and Warehousing	2,816
Mining	175	Other Transportation	436
Construction	7,890	Communications	1,524
Food Products	2,294	Public Utilities	1,800
Tobacco Products	0	Wholesale Trade	4,581
Textiles	26,756	Eating and Drinking Places	2,711
Apparel	6,968	Auto and Gas Stations	3,552
Lumber Products	2,184	Other Retail Trade	10,171
Furniture and Fixtures	40,686	FIRE[1/]	3,209
Paper Products	2,434	Lodging and Personal Services	3,431
Printing and Publishing	511	Business and Repairs	2,448
Chemical Products	402	Amusement and Recreation	752
Primary Metals	418	Private Household Work	1,611
Fabricated Metals	1,019	Hospital and Health Work	6,838
Machinery except Electrical	288	Education	8,917
Electrical Machinery	6,106	Other Professional Services	3,671
Transportation Equipment	0	Public Administration	3,491
Other Manufacturing	3,550		
Railway Transportation	211	Total	165,016

1/Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-F

Projected Employment for Region F by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	3,812	Trucking and Warehousing	18,452
Mining	500	Other Transportation	6,643
Construction	43,128	Communications	7,255
Food Products	11,767	Public Utilities	8,006
Tobacco Products	0	Wholesale Trade	34,514
Textiles	100,442	Eating and Drinking Places	10,222
Apparel	14,410	Auto and Gas Stations	11,762
Lumber Products	1,729	Other Retail Trade	53,419
Furniture and Fixtures	7,034	FIRE[1/]	29,666
Paper Products	3,287	Lodging and Personal Services	16,047
Printing and Publishing	7,250	Business and Repairs	20,221
Chemical Products	13,756	Amusement and Recreation	4,607
Primary Metals	4,268	Private Household Work	8,610
Fabricated Metals	7,074	Hospital and Health Work	27,835
Machinery except Electrical	20,042	Education	40,521
Electrical Machinery	3,243	Other Professional Services	22,907
Transportation Equipment	5,019	Public Administration	16,983
Other Manufacturing	10,717	Total	597,093
Railway Transportation	1,945		

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-G

Projected Employment for Region G by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	11,217	Trucking and Warehousing	15,763
Mining	706	Other Transportation	4,785
Construction	48,403	Communications	6,048
Food Products	8,445	Public Utilities	5,474
Tobacco Products	16,480	Wholesale Trade	24,345
Textiles	97,582	Eating and Drinking Places	15,405
Apparel	18,250	Auto and Gas Stations	13,465
Lumber Products	3,228	Other Retail Trade	54,507
Furniture and Fixtures	31,388	FIRE[1/]	24,604
Paper Products	3,682	Lodging and Personal Services	14,710
Printing and Publishing	6,497	Business and Repairs	12,688
Chemical Products	4,803	Amusement and Recreation	3,040
Primary Metals	1,911	Private Household Work	8,927
Fabricated Metals	8,365	Hospital and Health Work	23,292
Machinery except Electrical	9,256	Education	43,565
Electrical Machinery	24,856	Other Professional Services	19,410
Transportation Equipment	2,292	Public Administration	20,597
Other Manufacturing	26,498		
Railway Transportation	993	Total	635,477

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-H

Projected Employment for Region H by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	2,070	Trucking and Warehousing	647
Mining	366	Other Transportation	113
Construction	2,170	Communications	492
Food Products	953	Public Utilities	672
Tobacco Products	0	Wholesale Trade	1,089
Textiles	12,472	Eating and Drinking Places	934
Apparel	2,276	Auto and Gas Stations	1,479
Lumber Products	1,344	Other Retail Trade	4,623
Furniture and Fixtures	1,036	FIRE[1/]	1,648
Paper Products	410	Lodging and Personal Services	1,852
Printing and Publishing	0	Business and Repairs	310
Chemical Products	93	Amusement and Recreation	1,107
Primary Metals	0	Private Household Work	2,207
Fabricated Metals	0	Hospital and Health Work	2,798
Machinery except Electrical	37	Education	4,609
Electrical Machinery	2,238	Other Professional Services	2,077
Transportation Equipment	1,095	Public Administration	2,341
Other Manufacturing	3,054		
Railway Transportation	1,732	Total	60,344

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-J

Projected Employment for Region J by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	7,536	Trucking and Warehousing	3,489
Mining	597	Other Transportation	3,183
Construction	31,862	Communications	6,074
Food Products	7,310	Public Utilities	5,065
Tobacco Products	4,585	Wholesale Trade	15,052
Textiles	11,292	Eating and Drinking Places	9,527
Apparel	6,717	Auto and Gas Stations	10,080
Lumber Products	2,260	Other Retail Trade	34,383
Furniture and Fixtures	2,914	FIRE[1/]	21,308
Paper Products	378	Lodging and Personal Services	11,719
Printing and Publishing	5,005	Business and Repairs	13,120
Chemical Products	1,346	Amusement and Recreation	2,696
Primary Metals	0	Private Household Work	6,309
Fabricated Metals	3,607	Hospital and Health Work	32,630
Machinery except Electrical	11,371	Education	59,258
Electrical Machinery	15,050	Other Professional Services	17,243
Transportation Equipment	271	Public Administration	21,412
Other Manufacturing	986		
Railway Transportation	1,032	Total	386,667

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-K

Projected Employment for Region K by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	7,420	Trucking and Warehousing	191
Mining	201	Other Transportation	303
Construction	2,463	Communications	503
Food Products	581	Public Utilities	539
Tobacco Products	660	Wholesale Trade	1,891
Textiles	8,749	Eating and Drinking Places	1,115
Apparel	1,709	Auto and Gas Stations	2,036
Lumber Products	1,353	Other Retail Trade	7,079
Furniture and Fixtures	917	FIRE[1/]	1,365
Paper Products	0	Lodging and Personal Services	669
Printing and Publishing	0	Business and Repairs	113
Chemical Products	0	Amusement and Recreation	81
Primary Metals	1,146	Private Household Work	2,137
Fabricated Metals	498	Hospital and Health Work	4,469
Machinery except Electrical	689	Education	4,608
Electrical Machinery	1,554	Other Professional Services	1,641
Transportation Equipment	1,275	Public Administration	2,589
Other Manufacturing	4,493		
Railway Transportation	114	Total	65,151

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-L

Projected Employment for Region L by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	9,962	Trucking and Warehousing	2,419
Mining	118	Other Transportation	165
Construction	7,615	Communications	1,589
Food Products	2,146	Public Utilities	945
Tobacco Products	2,182	Wholesale Trade	4,443
Textiles	9,309	Eating and Drinking Places	3,606
Apparel	5,748	Auto and Gas Stations	3,487
Lumber Products	4,124	Other Retail Trade	12,348
Furniture and Fixtures	1,357	FIRE[1/]	4,046
Paper Products	1,356	Lodging and Personal Services	4,010
Printing and Publishing	318	Business and Repairs	4,269
Chemical Products	994	Amusement and Recreation	531
Primary Metals	746	Private Household Work	3,770
Fabricated Metals	446	Hospital and Health Work	4,624
Machinery except Electrical	1,785	Education	9,064
Electrical Machinery	0	Other Professional Services	3,066
Transportation Equipment	1,046	Public Administration	4,590
Other Manufacturing	5,200		
Railway Transportation	1,184	Total	122,608

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-M

Projected Employment for Region M by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	6,448	Trucking and Warehousing	1,407
Mining	126	Other Transportation	1,765
Construction	10,879	Communications	2,378
Food Products	2,992	Public Utilities	1,599
Tobacco Products	0	Wholesale Trade	4,574
Textiles	5,164	Eating and Drinking Places	5,272
Apparel	5,876	Auto and Gas Stations	5,272
Lumber Products	2,391	Other Retail Trade	15,178
Furniture and Fixtures	220	FIRE[1/]	5,555
Paper Products	0	Lodging and Personal Services	
Printing and Publishing	736	Business and Repairs	3,373
Chemical Products	1,743	Amusement and Recreation	1,739
Primary Metals	0	Private Household Work	3,061
Fabricated Metals	342	Hospital and Health Work	6,345
Machinery except Electrical	1,370	Education	13,774
Electrical Machinery	2,165	Other Professional Services	5,156
Transportation Equipment	0	Public Administration	10,389
Other Manufacturing	3,805		
Railway Transportation	254	Total	131,768

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-N

Projected Employment for Region N by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	8,165	Trucking and Warehousing	506
Mining	0	Other Transportation	413
Construction	3,528	Communications	389
Food Products	2,843	Public Utilities	680
Tobacco Products	168	Wholesale Trade	2,352
Textiles	15,969	Eating and Drinking Places	1,136
Apparel	3,221	Auto and Gas Stations	2,352
Lumber Products	1,081	Other Retail Trade	7,081
Furniture and Fixtures	0	FIRE[1/]	2,388
Paper Products	0	Lodging and Personal Services	1,535
Printing and Publishing	0	Business and Repairs	452
Chemical Products	775	Amusement and Recreation	144
Primary Metals	417	Private Household Work	2,435
Fabricated Metals	0	Hospital and Health Work	3,336
Machinery except Electrical	0	Education	8,141
Electrical Machinery	464	Other Professional Services	2,251
Transportation Equipment	559	Public Administration	2,860
Other Manufacturing	530	Total	76,394
Railway Transportation	223		

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-0

Projected Employment for Region 0 by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry Fishing	5,236	Trucking and Warehousing	1,858
Mining	0	Other Transportation	3,367
Construction	7,793	Communications	1,119
Food Products	1,345	Public Utilities	985
Tobacco Products	39	Wholesale Trade	4,309
Textiles	3,602	Eating and Drinking Places	2,211
Apparel	4,604	Auto and Gas Stations	2,679
Lumber Products	2,814	Other Retail Trade	9,537
Furniture and Fixtures	0	FIRE[1/]	3,421
Paper Products	1,055	Lodging and Personal Services	2,823
Printing and Publishing	931	Business and Repairs	3,228
Chemical Products	5,085	Amusement and Recreation	558
Primary Metals	0	Private Household Work	1,749
Fabricated Metals	2,626	Hospital and Health Work	4,900
Machinery except Electrical	756	Education	7,570
Electrical Machinery	557	Other Professional Services	3,235
Transportation Equipment	387	Public Administration	4,788
Other Manufacturing	487	Total	96,536
Railway Transportation	882		

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-P

Projected Employment for Region P by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	12,111	Trucking and Warehousing	1,464
Mining	0	Other Transportation	2,290
Construction	12,668	Communications	2,278
Food Products	4,108	Public Utilities	1,385
Tobacco Products	502	Wholesale Trade	6,187
Textiles	6,238	Eating and Drinking Places	4,649
Apparel	8,597	Auto and Gas Stations	5,837
Lumber Products	2,997	Other Retail Trade	18,281
Furniture and Fixtures	1,270	FIRE[1/]	6,031
Paper Products	922	Lodging and Personal Services	5,232
Printing and Publishing	496	Business and Repairs	3,553
Chemical Products	2,373	Amusement and Recreation	1,139
Primary Metals	570	Private Household Work	3,879
Fabricated Metals	1,035	Hospital and Health Work	8,669
Machinery except Electrical	378	Education	13,639
Electrical Machinery	1,770	Other Professional Services	4,699
Transportation Equipment	1,626	Public Administration	18,539
Other Manufacturing	1,548		
Railway Transportation	321	Total	167,281

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-Q

Projected Employment for Region Q by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	8,095	Trucking and Warehousing	321
Mining	621	Other Transportation	498
Construction	7,385	Communications	1,459
Food Products	1,350	Public Utilities	938
Tobacco Products	1,100	Wholesale Trade	4,131
Textiles	3,452	Eating and Drinking Places	2,917
Apparel	4,589	Auto and Gas Stations	2,822
Lumber Products	2,671	Other Retail Trade	8,823
Furniture and Fixtures	262	FIRE[1/]	2,460
Paper Products	3,092	Lodging and Personal Services	2,264
Printing and Publishing	345	Business and Repairs	1,369
Chemical Products	1,335	Amusement and Recreation	303
Primary Metals	0	Private Household Work	2,470
Fabricated Metals	0	Hospital and Health Work	2,650
Machinery except Electrical	549	Education	7,196
Electrical Machinery	2,337	Other Professional Services	2,147
Transportation Equipment	404	Public Administration	3,633
Other Manufacturing	4,715		
Railway Transportation	119	Total	88,822

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-3-R

Projected Employment for Region R by Industry, 1985

Industry	1985 Employment	Industry	1985 Employment
Agriculture, Forestry, Fishing	2,375	Trucking and Warehousing	418
Mining	0	Other Transportation	488
Construction	3,660	Communications	377
Food Products	680	Public Utilities	337
Tobacco Products	0	Wholesale Trade	1,450
Textiles	1,489	Eating and Drinking Places	350
Apparel	671	Auto and Gas Stations	1,057
Lumber Products	1,424	Other Retail Trade	4,430
Furniture and Fixtures	156	FIRE[1/]	1,303
Paper Products	1,089	Lodging and Personal Services	2,058
Printing and Publishing	137	Business and Repairs	96
Chemical Products	308	Amusement and Recreation	137
Primary Metals	0	Private Household Work	862
Fabricated Metals	0	Hospital and Health Work	1,093
Machinery except Electrical	0	Education	2,731
Electrical Machinery	0	Other Professional Services	1,168
Transportation Equipment	0	Public Administration	3,436
Other Manufacturing	1,613		
Railway Transportation	140	Total	35,533

[1/] Finance, Insurance, and Real Estate.
Note: All projections are accurate only to nearest 100.
Source: Research Triangle Institute.

Table III-4-State

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, North Carolina

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical and Kindred	234,819	383,869	282,905
Managers and Administrators	156,539	267,244	191,450
Salesworkers	124,083	183,069	129,672
Clerical and Kindred	293,290	480,773	399,474
Craftsmen and Kindred	299,108	431,689	232,029
Operatives	548,005	691,444	391,279
Laborers except Farm	108,806	127,490	56,487
Farmers and Farm Managers	86,739	42,295	- 1,308
Farm Laborers	66,142	29,712	- 15,268
Service Workers	265,470	310,351	230,430
Total	2,183,001	2,947,156	1,897,121

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-A

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region A

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	4,383	6,698	4,870
Managers and Administrators	2,744	3,834	2,393
Salesworkers	1,714	2,214	1,496
Clerical and Kindred	4,173	6,133	4,792
Craftsmen and Kindred	6,726	7,757	3,112
Operatives	11,297	11,764	4,921
Laborers except Farm	3,395	2,863	480
Farmers and Farm Managers	1,647	700	- 173
Farm Laborers	1,063	415	- 326
Service Workers	5,273	5,350	3,449
Total	42,415	47,727	25,014

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-B

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region B

Occupation	Occupational Employment 1970	Occupational Employment 1985	Occupational Requirements 1970-1985
Professional, Technical, and Kindred	11,684	17,588	12,172
Managers and Administrators	7,481	11,379	7,516
Salesworkers	5,541	6,739	4,057
Clerical and Kindred	12,325	18,161	14,321
Craftsmen and Kindred	13,623	17,125	7,756
Operatives	21,922	23,778	10,613
Laborers except Farm	4,415	4,536	1,562
Farmers and Farm Managers	3,214	831	- 1,128
Farm Laborers	1,503	355	- 770
Service Workers	11,340	12,499	8,548
Total	93,048	112,924	64,646

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-C

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region C

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	5,734	8,626	6,170
Managers and Administrators	4,378	6,076	3,729
Salesworkers	3,179	3,821	2,318
Clerical and Kindred	6,609	9,689	7,620
Craftsmen and Kindred	10,911	12,984	5,010
Operatives	27,944	30,880	15,702
Laborers except Farm	3,974	3,913	1,210
Farmers and Farm Managers	1,442	714	- 6
Farm Laborers	871	397	- 194
Service Workers	7,847	8,477	6,073
Total	72,889	85,270	47,633

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-D

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region D

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	4,500	6,155	4,085
Managers and Administrators	3,492	5,169	3,355
Salesworkers	2,131	2,888	1,974
Clerical and Kindred	5,550	8,254	6,541
Craftsmen and Kindred	8,172	7,670	1,780
Operatives	18,467	19,910	0,159
Laborers except Farm	3,748	3,221	599
Farmers and Farm Managers	3,998	1,822	- 242
Farm Laborers	2,082	871	- 564
Service Workers	5,542	6,751	5,138
Total	57,682	62,710	31,825

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-E

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region E

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	8,489	14,802	11,463
Managers and Administrators	7,230	13,401	10,074
Salesworkers	4,670	6,930	4,933
Clerical and Kindred	11,936	20,953	17,955
Craftsmen and Kindred	18,196	28,450	16,647
Operatives	42,542	60,027	38,312
Laborers except Farm	4,532	6,187	3,351
Farmers and Farm Managers	1,296	470	- 253
Farm Laborers	933	312	- 354
Service Workers	9,883	13,483	10,848
Total	109,707	164,998	112,975

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-F

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region F

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	43,531	76,723	58,647
Managers and Administrators	31,212	55,087	40,147
Salesworkers	28,591	43,242	30,375
Clerical and Kindred	64,082	106,034	88,457
Craftsmen and Kindred	58,625	88,920	49,910
Operatives	114,905	143,929	81,741
Laborers except Farm	19,009	23,226	10,957
Farmers and Farm Managers	4,686	1,358	- 1,422
Farm Laborers	3,871	1,039	- 1,814
Service Workers	45,771	57,522	44,423
Total	414,283	597,042	401,416

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-G

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region G

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	51,068	78,479	54,783
Managers and Administrators	32,692	55,679	39,812
Salesworkers	26,788	39,098	27,222
Clerical and Kindred	69,745	110,690	90,366
Craftsmen and Kindred	66,557	97,860	53,643
Operatives	130,756	163,618	92,295
Laborers except Farm	21,177	25,974	12,319
Farmers and Farm Managers	13,284	6,157	- 655
Farm Laborers	5,385	2,340	- 1,345
Service Workers	46,735	55,517	41,233
Total	464,189	635,373	409,671

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-H

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region H

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	4,059	6,164	4,553
Managers and Administrators	3,282	5,055	3,379
Salesworkers	2,338	2,982	1,950
Clerical and Kindred	4,946	7,214	5,689
Craftsmen and Kindred	7,477	8,472	3,232
Operatives	15,797	17,979	9,363
Laborers except Farm	3,442	3,472	1,144
Farmers and Farm Managers	1,610	690	- 160
Farm Laborers	1,761	688	- 540
Service Workers	7,132	7,626	5,520
Total	51,844	60,342	34,131

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-J

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region J

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	43,410	82,471	64,520
Managers and Administrators	19,346	36,728	27,906
Salesworkers	15,500	25,504	19,252
Clerical and Kindred	42,514	78,303	68,241
Craftsmen and Kindred	27,622	46,367	28,728
Operatives	38,061	52,433	31,198
Laborers except Farm	10,085	13,277	6,899
Farmers and Farm Managers	9,057	3,526	- 1,413
Farm Laborers	5,491	1,980	- 1,900
Service Workers	35,538	45,874	36,038
Total	246,624	386,621	279,468

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-K

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region K

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	4,254	6,073	4,271
Managers and Administrators	3,135	5,038	3,476
Salesworkers	2,105	3,194	2,389
Clerical and Kindred	5,617	8,796	7,176
Craftsmen and Kindred	6,877	8,055	3,235
Operatives	13,756	16,181	8,388
Laborers except Farm	2,853	2,906	980
Farmers and Farm Managers	5,499	4,213	2,029
Farm Laborers	3,277	2,275	296
Service Workers	7,790	8,419	6,027
Total	55,293	65,149	38,266

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-L

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region L

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	7,938	11,538	8,209
Managers and Administrators	7,657	12,664	8,894
Salesworkers	5,174	7,068	4,812
Clerical and Kindred	11,596	17,904	14,455
Craftsmen and Kindred	12,163	17,200	9,021
Operatives	21,070	26,868	15,097
Laborers except Farm	5,465	6,171	2,571
Farmers and Farm Managers	6,821	5,993	831
Farm Laborers	8,749	4,695	- 1,044
Service Workers	14,561	14,506	9,874
Total	101,194	122,593	72,719

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-M

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region M

Occupation	Occupational Employment 1970	Occupational Employment 1985	Occupational Requirements 1970-1985
Professional, Technical, and Kindred	9,332	17,062	13,779
Managers and Administrators	7,368	14,285	11,013
Salesworkers	6,247	9,949	7,533
Clerical and Kindred	12,833	24,154	21,304
Craftsmen and Kindred	11,347	18,132	10,784
Operatives	17,555	23,824	14,322
Laborers except Farm	4,099	5,456	2,872
Farmers and Farm Managers	5,982	3,573	827
Farm Laborers	3,967	2,183	- 405
Service Workers	13,735	19,078	15,722
Total	92,435	137,676	97,750

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-N

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region N

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	5,023	8,389	6,525
Managers and Administrators	3,464	6,039	4,390
Salesworkers	2,581	4,258	3,316
Clerical and Kindred	5,291	9,594	8,392
Craftsmen and Kindred	7,543	9,925	4,728
Operatives	15,491	22,532	14,959
Laborers except Farm	3,542	4,177	1,869
Farmers and Farm Managers	4,858	3,581	1,602
Farm Laborers	5,177	3,537	334
Service Workers	8,105	9,132	6,894
Total	61,075	81,159	53,009

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-0

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region 0

Occupation	Occupational Employment 1970	Occupational Employment 1985	Occupational Requirements 1970-1985
Professional, Technical, and Kindred	7,244	12,191	9,150
Managers and Administrators	6,039	10,450	7,558
Salesworkers	4,039	6,105	4,395
Clerical and Kindred	8,541	14,429	12,205
Craftsmen and Kindred	10,523	15,214	8,214
Operatives	13,854	18,220	10,407
Laborers except Farm	4,297	5,304	2,538
Farmers and Farm Managers	3,670	2,021	270
Farm Laborers	3,570	1,816	- 553
Service Workers	9,640	10,784	7,738
Total	71,417	96,525	61,921

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-P

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region P

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	13,212	18,814	13,142
Managers and Administrators	9,837	15,973	11,126
Salesworkers	7,998	11,310	7,993
Clerical and Kindred	16,129	26,006	21,468
Craftsmen and Kindred	18,212	25,618	13,576
Operatives	24,544	31,074	17,264
Laborers except Farm	7,422	7,900	2,941
Farmers and Farm Managers	10,631	5,247	- 71
Farm Laborers	8,997	4,082	- 2,025
Service Workers	20,035	21,256	14,528
Total	137,017	167,254	99,940

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-Q

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region Q

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	7,439	9,677	6,028
Managers and Administrators	4,758	7,905	5,572
Salesworkers	4,087	5,613	3,931
Clerical and Kindred	7,557	11,568	9,314
Craftsmen and Kindred	8,417	12,825	7,311
Operatives	13,493	19,516	12,217
Laborers except Farm	4,131	4,872	2,181
Farmers and Farm Managers	6,335	3,324	235
Farm Laborers	7,476	3,601	- 1,415
Service Workers	10,462	9,919	6,386
Total	74,15[illegible]	88,815	51,760

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-4-R

Occupational Employment for 1970 and 1985
and Occupational Requirements for 1970-1985, Region R

Occupation	Occupational Employment		Occupational Requirements
	1970	1985	1970-1985
Professional, Technical, and Kindred	3,595	3,700	1,852
Managers and Administrators	2,676	3,668	2,239
Salesworkers	1,790	2,255	1,492
Clerical and Kindred	3,805	4,995	3,656
Craftsmen and Kindred	5,479	5,796	1,949
Operatives	6,296	6,366	2,325
Laborers except Farm	3,205	2,487	202
Farmers and Farm Managers	2,733	920	- 637
Farm Laborers	2,081	642	- 862
Service Workers	5,847	4,702	2,356
Total	37,507	35,532	14,571

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-State

Occupational Training Requirements for North Carolina, 1970 to 1985

Occupation	Grades 0-7	Grades 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	9,242	64,627	27,493	181,544	282,904
Managers and Administrators	0	0	9,410	7,065	70,090	28,181	85,013	199,759
Salesworkers	0	0	6,302	28,526	46,120	12,506	36,217	129,671
Clerical and Kindred	1,287	1,580	17,640	157,964	163,351	42,813	17,350	401,983
Craftsmen and Kindred	3,504	6,358	22,281	78,217	105,655	13,315	4,146	233,472
Operatives	9,529	12,159	51,794	226,395	75,649	11,855	3,898	391,277
Laborers except Farm	1,977	1,864	5,705	33,948	9,829	2,372	791	56,487
Farmers and Farm Managers	-10	-37	-109	-701	-275	-115	-61	-1,308
Farm Laborers	-1,191	-351	-3,741	-6,473	-2,931	-443	-137	-15,268
Service Workers	4,199	4,547	29,407	99,363	72,362	15,320	5,231	230,428
Total	19,294	28,119	138,690	633,546	604,475	153,295	333,989	1,909,387
Percent	1.1	1.5	7.4	33.2	31.7	8.1	17.5	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-A

Occupational Training Requirements for Region A, 1970 to 1985

Occupation	Grades 0-7	Grades 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	131	1,031	463	3,245	4,870
Managers and Administrators	0	0	115	89	865	342	1,080	2,492
Salesworkers	0	0	85	389	546	127	348	1,496
Clerical and Kindred	13	17	220	2,011	1,861	487	211	4,818
Craftsmen and Kindred	57	78	306	1,09?	1,357	174	55	3,122
Operatives	99	141	586	2,970	886	195	45	4,921
Laborers except Farm	17	16	43	289	84	20	7	480
Farmers and Farm Managers	-1	-5	-14	-93	-36	-15	-8	-173
Farm Laborers	-25	-7	-80	-138	-63	-9	-3	-326
Service Workers	74	78	492	1,491	1,042	218	54	3,449
Total	232	338	1,759	8,235	7,571	2,001	5,033	25,149
Percent	0.9	1.3	7.0	32.7	30.1	8.0	20.0	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III -5-B

Occupational Training Requirements for Region B, 1970 to 1985

Occupation	Grades 0-7	Grades 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	379	2,970	1,307	7,516	12,172
Managers and Administrators	0	0	368	281	2,769	1,108	3,314	7,840
Salesworkers	0	0	203	926	1,450	376	1,101	4,057
Clerical and Kindred	49	53	624	5,650	5,855	1,556	622	14,409
Craftsmen and Kindred	109	198	755	2,573	3,599	438	130	7,800
Operatives	221	280	1,285	6,297	2,052	349	129	10,613
Laborers except Farm	55	52	158	939	272	66	22	1,562
Farmers and Farm Managers	-9	-32	-94	-605	-237	-99	-53	-1,128
Farm Laborers	-60	-18	-189	-326	-148	-22	-7	-770
Service Workers	169	183	1,196	3,701	2,648	545	105	8,548
Total	533	716	4,307	19,815	21,229	5,623	12,878	65,103
Percent	0.8	1.1	6.6	30.4	32.6	8.7	19.8	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-C

Occupational Training Requirements for Region C, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	175	1,333	608	4,055	6,170
Managers and Administrators	0	0	185	132	1,334	541	1,700	3,893
Salesworkers	0	0	113	506	832	220	646	2,318
Clerical and Kindred	23	34	343	3,025	3,096	812	337	7,671
Craftsmen and Kindred	63	124	481	1,665	2,309	292	101	5,035
Operatives	455	542	2,234	8,885	3,097	389	100	15,702
Laborers except Farm	42	40	122	727	211	51	17	1,210
Farmers and Farm Managers	0	0	-1	-3	-1	-1	0	-6
Farm Laborers	-15	-4	-48	-82	-37	-6	-2	-194
Service Workers	112	120	753	2,620	1,877	421	169	6,073
Total	681	856	4,183	17,649	14,050	3,327	7,125	47,872
Percent	1.4	1.8	8.7	36.9	29.4	6.9	14.9	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-D

Occupational Training Requirements for Region D, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	107	775	353	2,850	4,085
Managers and Administrators	0	0	154	127	1,236	489	1,484	3,490
Salesworkers	0	0	105	478	720	182	489	1,974
Clerical and Kindred	19	27	290	2,605	2,654	698	288	6,581
Craftsmen and Kindred	25	41	162	588	829	106	37	1,786
Operatives	210	313	1,222	5,370	1,696	298	49	9,158
Laborers except Farm	21	20	61	360	104	25	8	599
Farmers and Farm Managers	-2	-7	-20	-129	-51	-21	-11	-242
Farm Laborers	-44	-13	-138	-239	-108	-16	-5	-564
Service Workers	91	99	637	2,239	1,602	352	119	5,138
Total	319	479	2,473	11,506	9,458	2,464	5,307	32,006
Percent	1.0	1.5	7.7	35.9	29.6	7.7	16.6	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

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Table III-5-E

Occupational Training Requirements for Region E, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	405	2,544	1,091	7,423	11,463
Managers and Administrators	0	0	512	365	3,660	1,484	4,505	10,526
Salesworkers	0	0	244	1,095	1,744	477	1,373	4,933
Clerical and Kindred	55	66	779	7,100	7,334	1,950	777	18,060
Craftsmen and Kindred	241	446	1,637	5,533	7,647	869	339	16,713
Operatives	956	1,216	5,029	22,316	7,347	1,159	287	38,312
Laborers except Farm	117	111	338	2,014	583	141	47	3,351
Farmers and Farm Managers	-2	-7	-21	-135	-53	-22	-12	-253
Farm Laborers	-28	-8	-87	-150	-68	-10	-3	-354
Service Workers	179	200	1,331	4,561	3,585	749	244	10,848
Total	1,519	2,023	9,763	43,103	34,323	7,887	14,980	113,598
Percent	1.3	1.9	8.6	37.9	30.2	6.9	13.2	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-F

Occupational Training Requirements for Region F, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	1,973	13,784	5,799	37,091	58,647
Managers and Administrators	0	0	1,940	1,496	14,813	5,931	17,684	41,863
Salesworkers	0	0	1,360	6,085	10,621	3,043	9,266	30,374
Clerical and Kindred	270	323	3,890	34,999	36,226	9,486	3,781	88,975
Craftsmen and Kindred	729	1,354	4,816	16,762	22,803	2,883	906	50,252
Operatives	2,126	2,633	11,189	46,807	15,928	2,238	819	81,740
Laborers except Farm	383	362	1,107	6,585	1,906	460	153	10,957
Farmers and Farm Managers	-11	-40	-118	-762	-299	-125	-67	-1,422
Farm Laborers	-142	-42	-445	-769	-348	-53	-16	-1,814
Service Workers	799	868	5,558	19,041	14,152	2,975	1,029	44,423
Total	4,155	5,459	29,296	132,216	129,585	32,637	70,643	403,994
Percent	1.0	1.4	7.3	32.7	32.1	8.0	17.5	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-G

Occupational Training Requirements for Region G, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	2,022	13,024	5,491	34,245	54,782
Managers and Administrators	0	0	1,996	1,474	14,615	5,887	17,601	41,573
Salesworkers	0	0	1,330	5,985	9,633	2,638	7,637	27,222
Clerical and Kindred	300	340	4,022	36,016	36,777	9,602	3,866	90,923
Craftsmen and Kindred	818	1,544	5,131	18,145	24,406	3,033	972	54,048
Operatives	2,261	2,901	12,182	53,574	17,752	2,782	842	92,294
Laborers except Farm	431	407	1,244	7,404	2,144	517	172	12,319
Farmers and Farm Managers	-5	-18	-54	-351	-138	-58	-31	-655
Farm Laborers	-105	-31	-330	-570	-258	-39	-12	-1,345
Service Workers	746	806	5,283	18,105	12,616	2,690	988	41,233
Total	4,446	5,949	30,804	141,302	130,568	32,543	66,280	412,393
Percent	1.1	1.4	7.5	34.4	31.6	7.9	16.1	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-H

Occupational Training Requirements for Region H, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	125	915	413	3,100	4,553
Managers and Administrators	0	0	161	120	1,205	485	1,550	3,521
Salesworkers	0	0	98	451	708	176	517	1,950
Clerical and Kindred	17	24	238	2,142	2,403	642	259	5,725
Craftsmen and Kindred	41	82	290	1,117	1,436	225	63	3,253
Operatives	247	308	1,288	5,364	1,807	275	73	9,362
Laborers except Farm	40	38	116	688	199	48	16	1,144
Farmers and Farm Managers	-1	-4	-13	-86	-34	-14	-8	-160
Farm Laborers	-42	-12	-132	-229	-104	-16	-5	-540
Service Workers	97	104	661	2,419	1,680	377	183	5,520
Total	399	538	2,706	12,112	10,216	2,612	5,747	34,331
Percent	1.2	1.6	7.9	35.3	29.7	7.6	16.7	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-J

Occupational Training Requirements for Region J, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	2,152	15,247	6,172	40,948	64,519
Managers and Administrators	0	0	1,353	1,021	10,203	4,116	12,417	29,111
Salesworkers	0	0	917	4,182	6,890	1,864	5,399	19,252
Clerical and Kindred	181	216	2,866	26,278	28,632	7,545	2,869	68,588
Craftsmen and Kindred	470	820	2,816	9,815	12,872	1,657	476	28,926
Operatives	672	855	3,913	18,154	6,152	1,031	422	31,198
Laborers except Farm	241	228	697	4,146	1,200	290	97	6,899
Farmers and Farm Managers	-11	-40	-117	-757	-297	-124	-66	-1,413
Farm Laborers	-148	-44	-465	-806	-365	-55	-17	-1,900
Service Workers	671	731	4,713	15,110	11,745	2,418	652	36,038
Total	2,077	2,766	16,692	79,295	92,278	24,913	63,197	281,218
Percent	0.7	1.0	5.9	28.2	32.8	8.9	22.5	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-K

Occupational Training Requirements for Region K, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	100	960	436	2,775	4,271
Managers and Administrators	0	0	164	130	1,282	513	1,533	3,622
Salesworkers	0	0	141	648	877	210	512	2,389
Clerical and Kindred	7,222	21	31	321	2,805	2,947	761	337
Craftsmen and Kindred	36	72	297	1,066	1,518	200	62	3,252
Operatives	207	282	1,082	4,901	1,609	248	60	8,388
Laborers except Farm	34	32	99	589	170	41	14	980
Farmers and Farm Managers	16	57	168	1,088	426	179	95	2,029
Farm Laborers	23	7	72	125	57	9	3	296
Service Workers	101	111	712	2,510	1,998	433	163	6,027
Total	439	591	3,057	13,961	11,845	3,029	5,553	38,475
Percent	1.2	1.5	7.9	36.3	30.8	7.9	14.4	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-L

Occupational Training Requirements for Region L, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	239	1,809	811	5,351	8,209
Managers and Administrators	0	0	451	325	3,248	1,317	3,953	9,293
Salesworkers	0	0	245	1,115	1,734	451	1,266	4,812
Clerical and Kindred	51	62	649	5,752	5,325	1,532	682	14,553
Craftsmen and Kindred	131	232	851	3,035	4,087	519	165	9,061
Operatives	355	443	1,998	8,717	2,912	488	182	15,096
Laborers except Farm	90	85	260	1,545	447	108	36	2,571
Farmers and Farm Managers	7	23	69	445	175	73	39	831
Farm Laborers	-81	-24	-256	-443	-200	-30	-9	-1,044
Service Workers	182	195	1,246	4,354	2,976	655	265	9,874
Total	735	1,016	5,554	25,086	23,012	5,924	11,929	73,257
Percent	1.0	1.4	7.6	34.2	31.4	8.1	16.3	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-M

Occupational Training Requirements for Region M, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	427	2,772	1,248	9,333	13,779
Managers and Administrators	0	0	539	410	4,028	1,610	4,898	11,485
Salesworkers	0	0	377	1,747	2,708	710	1,991	7,533
Clerical and Kindred	98	117	1,002	8,630	8,534	2,204	908	21,492
Craftsmen and Kindred	184	306	1,050	3,704	4,802	623	177	10,844
Operatives	325	406	1,896	8,269	2,730	490	206	14,321
Laborers except Farm	101	95	290	1,726	500	121	40	2,872
Farmers and Farm Managers	7	23	69	443	174	73	39	827
Farm Laborers	-32	-9	-99	-172	-78	-12	-4	-405
Service Workers	289	314	2,081	6,919	4,784	992	342	15,722
Total	971	1,251	7,205	32,104	30,953	8,058	17,929	98,471
Percent	1.0	1.3	7.3	32.6	31.4	8.2	18.2	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-N

Occupational Training Requirements for Region N, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	137	1,212	529	4,647	6,525
Managers and Administrators	0	0	203	166	1,616	639	1,943	4,571
Salesworkers	0	0	167	754	1,193	309	892	3,316
Clerical and Kindred	26	37	375	3,286	3,426	893	404	8,447
Craftsmen and Kindred	59	113	458	1,571	2,173	278	95	4,747
Operatives	409	505	2,100	8,536	2,864	420	124	14,959
Laborers except Farm	65	62	189	1,125	325	78	26	1,869
Farmers and Farm Managers	13	45	133	859	336	141	75	1,602
Farm Laborers	26	8	82	141	64	10	3	334
Service Workers	137	143	897	3,074	1,988	453	201	6,894
Total	736	912	4,608	19,649	15,198	3,751	8,410	53,264
Percent	1.4	1.7	8.7	36.9	28.5	7.0	15.8	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-0

Occupational Training Requirements for Region 0, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	251	2,030	891	5,978	9,150
Managers and Administrators	0	0	381	275	2,751	1,115	3,373	7,895
Salesworkers	0	0	214	977	1,564	429	1,211	4,395
Clerical and Kindred	45	61	562	4,929	4,682	1,269	551	12,298
Craftsmen and Kindred	123	218	790	2,776	3,710	495	144	8,256
Operatives	233	283	1,365	5,965	2,076	347	138	10,407
Laborers except Farm	89	84	256	1,525	442	107	36	2,538
Farmers and Farm Managers	2	8	22	145	57	24	13	270
Farm Laborers	-43	-13	-136	-235	-106	-16	-5	-553
Service Workers	155	165	1,038	3,397	2,326	502	155	7,738
Total	605	804	4,494	20,005	19,731	5,162	11,592	62,393
Percent	1.0	1.3	7.2	32.0	31.6	8.3	18.6	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-P

Occupational Training Requirements for Region P, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	372	2,812	1,250	8,708	13,142
Managers and Administrators	0	0	540	413	4,052	1,620	4,974	11,599
Salesworkers	0	0	415	1,910	2,888	748	2,031	7,992
Clerical and Kindred	84	111	995	8,705	8,550	2,227	968	21,639
Craftsmen and Kindred	204	402	1,232	4,535	6,270	825	217	13,685
Operatives	406	514	2,330	9,843	3,403	551	218	17,264
Laborers except Farm	103	97	297	1,768	512	124	41	2,941
Farmers and Farm Managers	-1	-2	-6	-38	-15	-6	-3	-71
Farm Laborers	-158	-47	-496	-858	-389	-59	-18	-2,025
Service Workers	241	266	1,757	6,134	4,813	980	336	14,528
Total	879	1,342	7,064	32,784	32,896	8,260	17,470	100,694
Percent	0.9	1.3	7.0	32.6	32.7	8.2	17.3	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-Q

Occupational Training Requirements for Region Q, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	233	1,480	592	3,723	6,028
Managers and Administrators	0	0	264	213	2,074	822	2,431	5,805
Salesworkers	0	0	207	931	1,419	368	1,005	3,931
Clerical and Kindred	32	45	412	3,662	3,792	1,005	434	9,383
Craftsmen and Kindred	112	210	711	2,523	3,241	428	137	7,361
Operatives	286	363	1,597	7,174	2,263	421	113	12,217
Laborers except Farm	76	72	220	1,311	379	92	31	2,181
Farmers and Farm Managers	2	7	20	126	49	21	11	235
Farm Laborers	-110	-33	-347	-600	-272	-41	-13	-1,415
Service Workers	127	134	858	2,914	1,792	395	166	6,386
Total	526	799	3,943	18,487	16,218	4,102	8,038	52,112
Percent	1.0	1.5	7.6	35.5	31.1	7.9	15.4	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Table III-5-R

Occupational Training Requirements for Region R, 1970 to 1985

Occupation	Grades 0-7	Grade 8	High School 1-3	High School 4	Post Secondary Training	College 1-3	College 4+	Total
Professional, Technical and Kindred	0	0	0	54	423	178	1,197	1,852
Managers and Administrators	0	0	108	83	816	329	1,000	2,335
Salesworkers	0	0	81	367	546	136	362	1,492
Clerical and Kindred	11	15	162	1,463	1,467	383	178	3,679
Craftsmen and Kindred	32	53	181	660	874	122	32	1,954
Operatives	57	72	323	1,334	422	82	34	2,325
Laborers except Farm	7	7	20	122	35	8	3	202
Farm and Farm Managers	-5	-18	-53	-342	-134	-56	-30	-637
Farm Laborers	-67	-20	-211	-366	-166	-25	-8	-862
Service Workers	49	52	317	1,007	735	152	44	2,356
Total	84	162	927	4,381	5,019	1,311	2,811	14,695
Percent	0.6	1.1	6.3	29.8	34.2	8.9	19.1	100.0

Note: All projections are accurate to nearest 100.

Source: Research Triangle Institute.

Appendix A

Description of Projection Procedure

Description of Projection Procedure

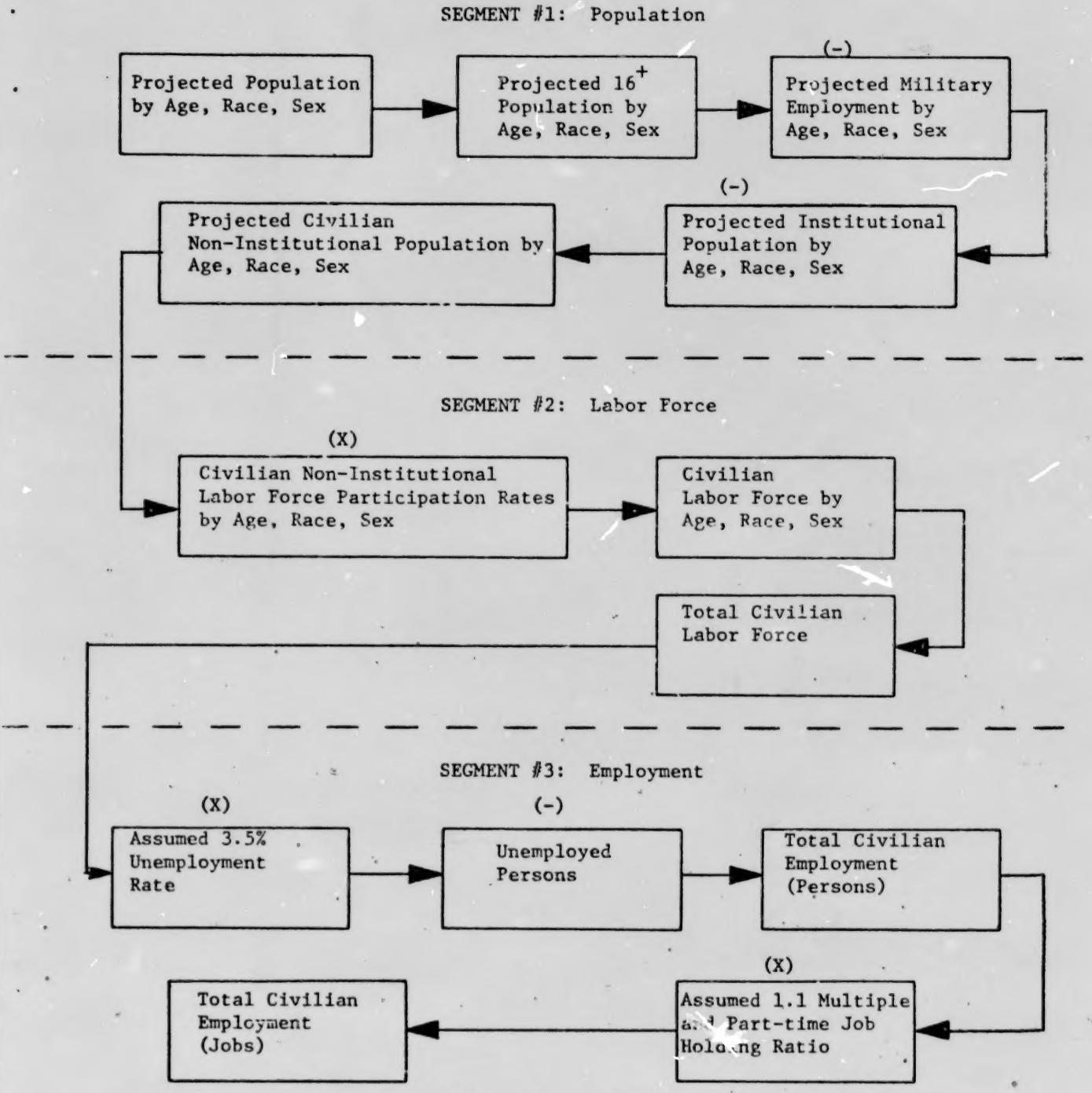
This appendix provides a brief description of the procedure used to project employment by industry and occupation and to use these projections in projecting educational-attainment requirements. Figure A-1 indicates how population projections prepared by the North Carolina Office of State Planning were used, along with independent projections of labor-force participation rates by age, race, and sex, to project the total labor force in 1985. The total number of jobs were then projected from the total labor force projections by assuming a trend of 3.5 percent unemployment rate and a 1.10 ratio in 1970 between jobs defined on an Employment Security Commission basis and employment defined on a census basis (the former includes, but the latter excludes, seasonal employment and multiple-job holding). The jobs concept is used here because training is more typically related to jobs, so that a multiple-job holder could receive training in more than one area of emphasis.

The population projection program maintained by the North Carolina Office of State Planning has the capability of projecting population by sex, race, five-year age cohorts for an indefinite period into the future by using the ratio-correlation method of projection. These projections basically reflect trends over the 1960-1970 census periods. Labor-force participation-rate projections were independently developed by observing age-, race-, and sex-specific trends in labor-force participation rate relatives between North Carolina and the U.S. over the 1960-1970 periods, and then extropolating these trends through 1985 and applying them to projections of U.S. rates supplied by the U.S. Bureau of Labor Statistics.

Since population and labor-force participation rates were projected independently, a consistency check was made by regressing net migration rates against rates of employment gain for North Carolina counties over the 1950-1960 and again over the 1960-1970 periods. Parameter estimates from both periods were highly similar; these estimates were then used to make adjustments in both the projections of employment and the projections of labor-force participation through 1985. The net effect of these adjustments was to raise the rate of labor force participation, total popu-

Figure A-1

Methodology for Projecting Employment
from Projected Population:
North Carolina 1985


SEGMENT #1: Population
Projected Population by Age, Race, Sex
Projected 16+ Population by Age, Race, Sex
(-)
Projected Military Employment by Age, Race, Sex
(-)
Projected Institutional Population by Age, Race, Sex
Projected Civilian Non-Institutional Population by Age, Race, Sex
SEGMENT #2: Labor Force
(X)
Civilian Non-Institutional Labor Force Participation Rates by Age, Race, Sex
Civilian Labor Force by Age, Race, Sex
Total Civilian Labor Force
SEGMENT #3: Employment
(X)
Assumed 3.5% Unemployment Rate
(-)
Unemployed Persons
Total Civilian Employment (Persons)
(X)
Assumed 1.1 Multiple and Part-time Job Holding Ratio
Total Civilian Employment (Jobs)

lation, and total employment as a result of increased projections of net immigration. These adjustments yield a final projection for 1985 population of 6,010,300 and a final projection of 1985 jobs of 2,948,000.

The distribution of this job total by industry group and by multicounty planning region was performed with the assistance of growth rates in employment by industry and economic region implied in the 1972 OBERS projections.[1/] These rates were applied to employment data through 1972 and then disaggregated to the multicounty planning region level after analyzing trends in multicounty planning region constituent-county shares of OBERS economic-area industry group employment. These projections were then summed to yield a multicounty planning-region job total which was compared with the population projected for that region. Differences between the ratio of jobs to population were eliminated by an iterative procedure, which made slight adjustments to the projections of jobs by industry group at the regional and, thus, at the State level. This procedure preserved regional economic base and total employment growth characteristics consistent with the projections of industry group employment and population at both the regional and the State levels.

The projections of industry group employment to 1985 for the State and its 17 official multicounty planning regions were then used as a basis for the occupational employment and requirements projections as illustrated in Figure A-2. These results are presented in the main body of this report in Table III-3. Staffing patterns by industry group were projected by applying staffing-pattern "change factors" by industry group developed from U.S. occupational-employment computer tapes for 1970 and 1980 supplied by the U.S. Bureau of Labor Statistics; these factors were then extended to cover the 1970-1985 period and were applied to 1970 staffing patterns within industry groups. The projected 1985 staffing patterns by industry group were then applied to the projected 1985 industry group employment totals to yield projected 1985 occupational employment. The employment changes due to industrial growth (or decline) over the 1970-1985 period then form the first component of total occupational requirements over this period. The projections are for

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[1/] U.S. Bureau of Economic Analysis and U.S. Economic Research Service, The 1972 OBERS Projection of Economic Activity in the U.S., Vols. 1-5, U.S. Water Resources Council, September 1972.

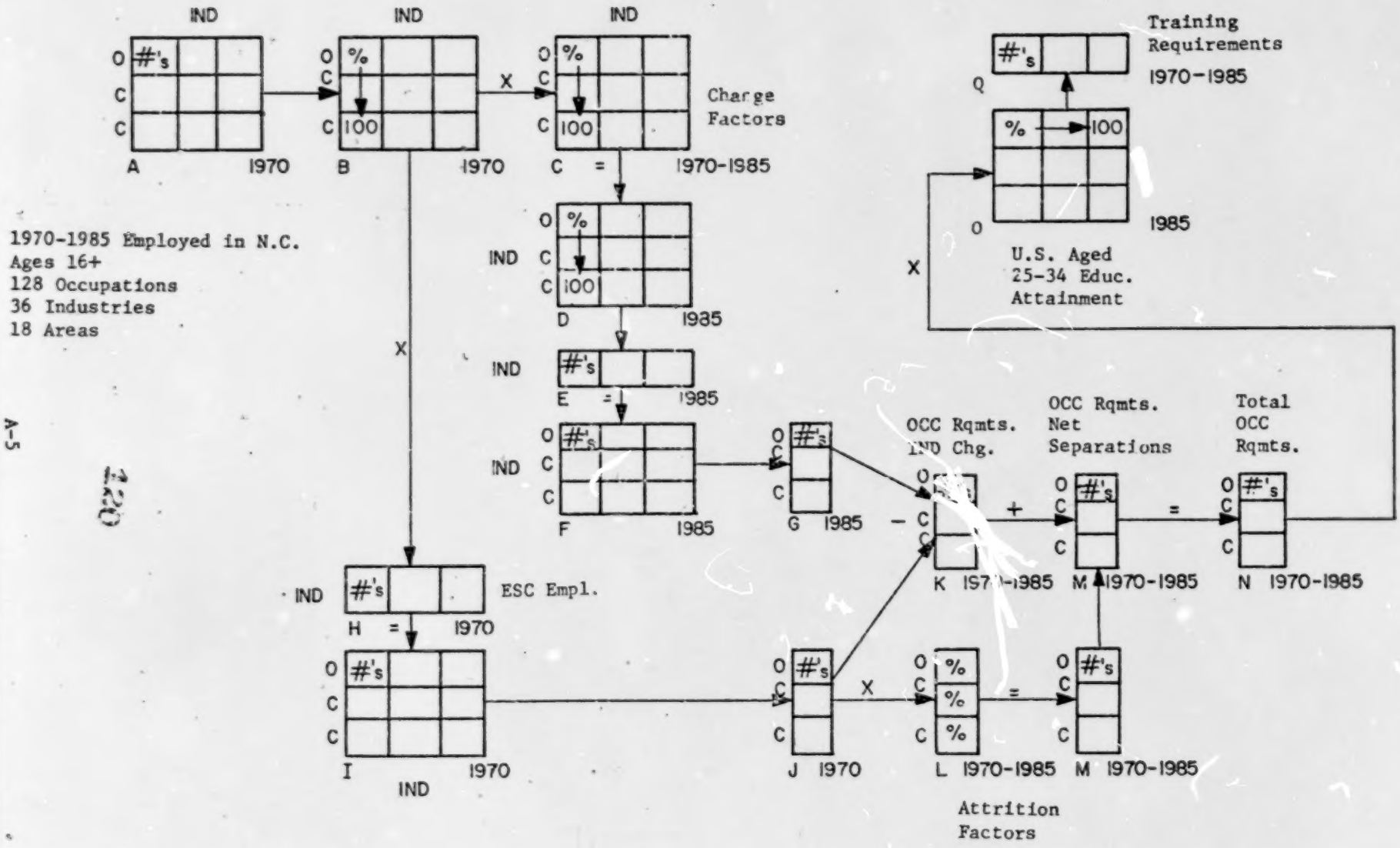

Figure A-2. Total Occupational and Training Requirements 1970-1985

128 occupations in each of 36 industries for the State and its 17 official multicounty planning regions. Up to 83 industry and 200 occupation detail is theoretically possible in these projections, since the 1970 census special tabulation computer tape maintained by the Department of Public Instruction Management Information System contains this detail by county, but statistical reliability would foreclose responsible use of this level of detail for all but perhaps the State level of aggregation.

Since job openings also occur as currently employed workers die, retire, or otherwise permanently separate from the labor force, a vector of separation rates based on the age and sex distribution of employment within each occupation supplied by the North Carolina Employment Security Commission was applied to 1970 occupational employment converted to a job basis to yield an estimate of job openings due to separations. Occupational requirements from this source were added to occupational requirements from industrial growth (or decline) over the 1970-1985 period to yield total occupational requirements.

Projections of educational attainment by occupation were made for U.S. workers aged 25-34 from 1970 census estimates and from an extrapolation to 1985 of educational-attainment changes for all workers projected over the period 1970-1980 by the U.S. Bureau of Labor Statistics. These projections were adjusted to include a separation of the standard census high school graduate category into its two major components: graduates who pursue no further training and graduates who pursue postgraduate technical or vocational training that does not lead to a regular baccalaurate degree. The addition of workers across all occupations for each level of educational attainment then produced an educational-attainment vector labeled "training requirements" as the final output of the modeling procedure.

Appendix B

Industry and Occupation Lists

Figure B-1

36 Industry Groups

Group Number	Industry Description
1	Agriculture, Forestry, Fisheries
2	Mining
3	Contract Construction
4	Food and Kindred Products
5	Tobacco
6	Textile Mill Products
7	Apparel
8	Lumber and Wood Products, except Furniture
9	Furniture and Fixtures
10	Paper and Allied Products
11	Printing and Publishing
12	Chemical and Allied Products
13	Primary Metals
14	Fabricated Metals and Ordnance
15	Machinery, except Electrical
16	Electrical Equipment and Supplies
17	Transportation Equipment
18	Other Manufacturing
19	Railroad Transportation
20	Motor Freight Transportation and Warehousing
21	Other Transportation
22	Communications
23	Electric, Gas, Sanitary Services
24	Wholesale Trade

Figure B-1 (cont'd.)

Group Number	Industry Description
25	Eating and Drinking Places
26	Auto Dealers and Gasoline Service Stations
27	Other Retail Trade
28	Finance, Insurance, Real Estate
29	Hotels and Other Lodging, Places and Personal Services
30	Business and Repair Services
31	Amusement and Recreation Services plus Motion Pictures
32	Private Households
33	Hospitals and Health Services
34	Educational Services
35	Other Professional Services
36	Public Administration

Figure B-2

128 Occupational Groups

Group Number	Description
1	ACCOUNTANTS
2	ARCHITECTS
3	COMPUTER SPECIALISTS
4	AERONAUTICAL AND ASTRONAUTICAL ENGINEERS
5	CIVIL ENGINEERS
6	ELECTRICAL AND ELECTRONIC ENGINEERS
7	MECHANICAL ENGINEERS
8	OTHER ENGINEERS
9	LAWYERS AND JUDGED
10	LIBRARIANS
11	MATHEMATICAL SPECIALISTS
12	REGISTERED NURSES
13	DIETITIANS
14	THERAPISTS
15	WRITERS, ARTISTS, AND ENTERTAINERS
16	LIFE AND PHYSICAL SCIENTISTS
17	PHYSICIANS, MEDICAL AND OSTEOPATHIC
18	DENTISTS
19	PHARMACISTS
20	OTHER RELATED PRACTITIONERS
21	HEALTH TECHNOLOGISTS AND TECHNICIANS
22	RELIGIOUS WORKERS
23	SOCIAL SCIENTISTS
24	SOCIAL AND RECREATION WORKERS
25	COLLEGE AND UNIVERSITY TEACHERS
26	ELEMENTARY ADN PREKINDERGARTEN TEACHERS
27	SECONDARY TEACHERS
28	OTHER TEACHERS
29	ENGINEERING AND SCIENCE TECHNICIANS
30	TECHNICIANS, EXCEPT HEALTH, ENGINEERING AND SCIENCE
31	OTHER PROFESSIONAL, TECHNICAL AND KINDRED WORKERS
32	BUYERS, PURCHASING AGENTS, AND SALES MANAGERS
33	RESTAURANT, CAFETERIA, AND BAR MANAGERS
34	SCHOOL ADMINISTRATORS
35	SPECIFIED MANAGERS AND ADMINISTRATORS
36	OTHER SPECIFIED MANAGERS AND ADMINISTRATORS
37	MANAGERS AND ADMINISTRATORS, N.E.C.--SALARIED
38	MANAGERS AND ADMINISTRATORS, N.C.E.--SELF-EMPLOYED
39	INSURANCE, REAL ESTATE AGENTS, BROKERS AND UNDERWRITERS
40	DEMONSTRATORS, HUCKSTERS, AND PEDDLERS
41	SALES REPRESENTATIVES, MANUFACTURING INDUSTRIES
42	SALES REPRESENTATIVES, WHOLESALE TRADE
43	SALES CLERKS, RETAIL TRADE
44	SALESMEN, RETAIL TRADE
45	SALESMEN OF SERVICES AND CONSTRUCTION
46	OTHER SALESWORKERS
47	BANK TELLERS AND CASHIERS

Figure B-2 (cont'd.)

Group Number	Description
48	BOOKKEEPERS AND BILLING CLERKS
49	COUNTER CLERKS, EXCEPT FOOD
50	ENUMERATORS AND INTERVIEWS
51	FILE CLERKS
52	MAIL HANDLERS AND POSTAL CLERKS
53	BOOKKEEPING AND BILLING MACHINE OPERATORS
54	KEY PUNCH OPERATORS
55	OTHER OFFICE MACHINE OPERATORS
56	PAYROLL AND TIMEKEEPING CLERKS
57	RECEPTIONISTS
58	SECRETARIES
59	STENOGRAPHERS
60	TELEPHONE OPERATORS
61	TYPISTS
62	OTHER CLERICAL WORKERS
63	APPAREL CRAFTSMAN AND UPHOLSTERERS
64	BAKERS
65	CABINETMAKERS
66	CARPENTERS
67	EXCAVATING, GRADING, AND ROAD MACHINE OPERATORS
68	ELECTRICIANS
69	MASON AND TILE SETTERS
70	PAINTERS AND PAPERHANGERS
71	PLASTERS AND CEMENT FINISHERS
72	PLUMBERS AND PIPEFITTERS
73	OTHER CONSTRUCTION CRAFTSMEN
74	FOREMEN, N.E.C.
75	LINEMEN AND SERVICEMEN, TELEPHONE AND POWER
76	LOCOMOTIVE ENGINEERS AND FIREMEN
77	AIR CONDITIONING, HEATING, AND REFRIGERATION MECHANICS
78	AIRCRAFT MECHANICS AND REPAIRMEN
79	AUTOMOBILE MECHANICS, INCLUDING BODY
80	RADIO AND TELEVISION REPAIRMEN
81	OTHER MECHANICS AND REPAIRMEN
82	MACHINISTS, JOB AND DIE SETTERS
83	SHEETMETAL WORKERS AND TINSMITHS
84	TOOL AND DIE MAKERS
85	OTHER METAL CRAFTSMEN
86	COMPOSITORS AND TYPESETTERS
87	PRESSMEN AND PLATE PRINTERS, PRINTING
88	OTHER PRINTING CRAFTSMEN
89	STATIONARY ENGINEERS AND POWER STATION OPERATORS
90	OTHER CRAFTSMEN AND KINDRED WORKERS
91	ASSEMBLERS
92	CHECKERS, EXAMINERS, AND INSPECTORS: MANUFACTURING
93	GARAGE WORKERS AND GAS STATION ATTENDANTS
94	DRESSMAKERS AND SEAMSTRESSES, EXCEPT FACTORIES
95	LAUNDRY AND DRY CLEANING OPERATIVES, INCLUDING IRONERS

Figure B-2 (cont'd.)

Group Number	Description
96	BOTTLING AND CANNING OPERATIVES
97	GRADERS AND SORTERS, MANUFACTURING
98	SEWERS AND STITCHERS
99	MEAT CUTTERS AND BUTCHERS
100	MINE OPERATIVES, N.E.C.
101	PACKERS AND WRAPPERS, EXCEPT PRODUCE
102	PAINTERS, MANUFACTURED ARTICLES
103	PRECISION MACHINE OPERATIVES
104	SAWYERS
105	STATIONARY FIREMEN
106	TEXTILE OPERATIVES
107	WELDERS AND FLAME-CUTTERS
108	METALWORKING OPERATIVES
109	OTHER SPECIFIED OPERATIVES
110	MISCELLANEOUS AND NOT SPECIFIED OPERATIVES
111	TRANSPORT EQUIPMENT OPERATIVES
112	LABORERS, EXCEPT FARM
113	FARM AND FARM MANAGERS
114	PAID FARM LABORERS AND FARM FOREMEN
115	UNPAID FAMILY FARM WORKERS
116	CLEANING SERVICE WORKERS
117	COOKS, EXCEPT PRIVATE HOUSEHOLD
118	BUSBOYS AND DISHWASHERS
119	WAITERS AND FOOD COUNTER WORKERS
120	OTHER FOOD SERVICE WORKERS
121	HEALTH SERVICE WORKERS
122	PERSONAL SERVICE WORKERS
123	FIREMEN, FIRE PROTECTION WORKERS
124	GUARDS AND WATCHMEN
125	POLICEMEN AND DETECTIVES
126	OTHER PROTECTIVE SERVICE WORKERS
127	SERVICE WORKERS, EXCEPT PRIVATE HOUSEHOLD—ALLOCATED
128	PRIVATE HOUSEHOLD WORKERS

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